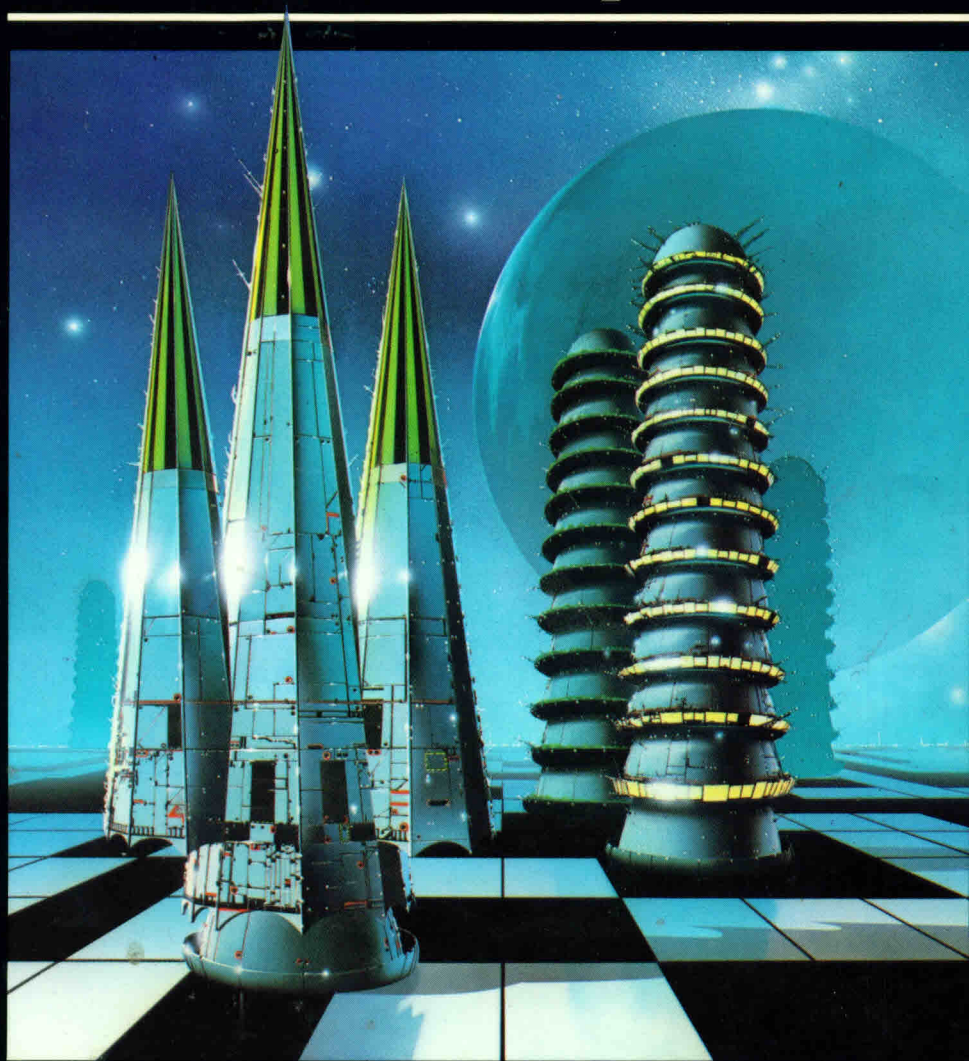




# THE TIMES

**Book of Computer Puzzles & Games  
for the Sinclair Spectrum**

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**Compiled by Robin Bradbeer and Harold Gale**

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**Book of Computer Puzzles & Games**  
**for the Sinclair ZX Spectrum**



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# Foreword

This book is intended to provide the computer user with interesting and stimulating games and puzzles.

Many of the programs were submitted by members of the public – from young people through to members of the cloth! All the programs submitted were written in BASIC and show the amount of hidden talent there is among computer hobbyists.

The puzzles and games we solicited for inclusion were chosen not just for their originality and entertainment value, but also for sound, practical reasons, such as length of program listing and complexity of graphics characters used in the listing.

We would like to thank Paul Boocock for his tremendous efforts in the compilation and production of this book.

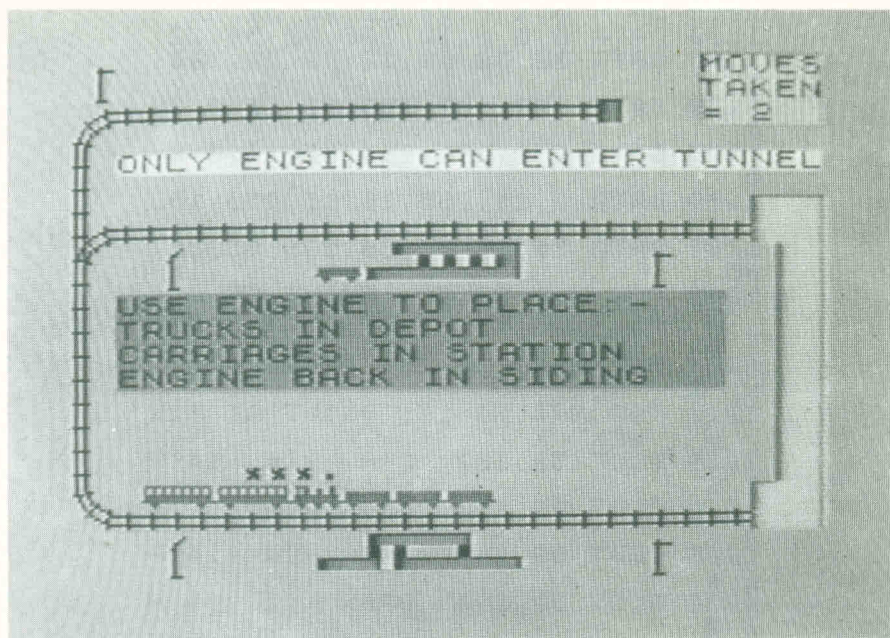
To avoid any chance of errors in typesetting, we decided that the listings should be reproduced direct from computer printout, so, if you type in a program and find it will not work, then please check your typing thoroughly.

We hope that you will have as much fun with these games and puzzles as we had when selecting them.

*Robin Bradbeer and Harold Gale*



# Shunting



This is a puzzle that will keep you occupied for hours... the object is to place the trucks in the depot and the carriages in the station, with the engine in the siding. However only the engine can enter the tunnel. It looks so easy... until you try it. (Solution on page 160.)

```

1000 REM SHUNTING
1005 REM © J. R. JACKSON
1010 RESTORE
1015 BORDER 6: PAPER 6: INK 0: C
LS
1020 LET E$=""
"
1025 LET W$=" abcdefghijk ": LE
T I$=" ABCDEFGHIJK "
1100 FOR X=USR "A" TO USR "Q"+7:
  READ Y: POKE X,Y: NEXT X
1105 DATA 48,51,51,127,127,255,1
15,33
1110 DATA 62,52,52,254,254,255,1
56,8
1115 DATA 127,73,73,127,127,255,
28,8
1120 DATA 255,36,36,255,255,255,
0,0
1125 DATA 254,146,146,254,254,25
5,56,16

```

```

1130 DATA 0,0,127,127,127,255,56
,16
1135 DATA 0,0,254,254,254,255,28
,8
1140 DATA 0,0,0,0,24,24,0,0
1145 DATA 0,0,0,12,12,0,0,0
1150 DATA 0,0,44,56,28,52,0,0
1155 DATA 0,4,8,48,32,96,32,32
1160 DATA 0,0,0,32,128,32,32,32
1165 DATA 32,32,32,32,32,32,120,
0
1170 DATA 127,127,255,56,16,0,0,
0
1175 DATA 252,252,254,56,16,0,0,
0
1180 DATA 0,16,255,16,16,255,16,
0
1185 DATA 36,36,36,36,126,36,36,
36
1200 FOR X=4 TO 28: PRINT AT 2,X
;"#";AT 7,X;"#";AT 19,X;"#": NEX
T X
1205 FOR X=29 TO 31: PRINT AT 2,
X;"#": NEXT X
1210 FOR X=4 TO 17: PRINT AT X,2
;"#": NEXT X
1215 PLOT 32,157: DRAW -14,-14,P
I/2
1220 PLOT 32,154: DRAW -11,-11,P
I/2
1225 PLOT 32,117: DRAW -14,-14,P
I/2
1230 PLOT 32,114: DRAW -11,-11,P
I/2
1235 PLOT 32,21: DRAW -11,11,-PI
/2
1240 PLOT 32,18: DRAW -14,14,-PI
/2
1245 PLOT 25,150: DRAW -4,4: PLO
T 29,152: DRAW -1,6: PLOT 23,146
: DRAW -6,1
1250 PLOT 25,110: DRAW -4,4: PLO
T 29,112: DRAW -1,6: PLOT 23,106
: DRAW -6,1
1255 PLOT 25,25: DRAW -4,-4: PLO
T 29,23: DRAW -1,-6: PLOT 23,29:
DRAW -6,-1
1260 PRINT PAPER 3;AT 6,29;" "A
T 7,29;" "AT 18,29;" "AT 19,29
:
1265 FOR X=6 TO 19: PRINT PAPER
3;AT X,30;" ": NEXT X
1270 PRINT AT 8,12: INK 1;"
"AT 9,12: INK 2;"#"; INK 1:
"
1275 PRINT INK 1;AT 20,12;"
"AT 21,12;"
1280 PRINT AT 1,3;"#";AT 9,6;"#
"AT 9,25;"#";AT 21,6;"#";AT 21,2
5;"#
1285 PRINT AT 0,3;"+";AT 8,6;"+"
;AT 8,25;"+";AT 20,6;"+";AT 20,2
5;"+"
1300 LET L$="#####-TRAIN-SHUNTI
NG-PUZZLE": LET K$=".* *"+E$
1305 BEEP .1,20: PAUSE 5: BEEP .
4,20
1310 FOR X=31 TO 4 STEP -1
1315 PRINT INK 2;AT 1,X)L$( TO 3

```

```

2-X); INK 0; AT 0,X; K#( TO 32-X)
1320 BEEP .2,-30
1325 NEXT X
1400 PRINT PAPER 7; AT 15,4;"PRES
S ""S"" TO "; INVERSE 1;"S"; INV
ERSE 0;"TART"
1405 IF INKEY#<>"s" AND INKEY#<>
"s" THEN GO TO 1405
1410 GO SUB 4900
1500 FOR X=USR "M" TO USR "U"+7:
  READ Y: POKE X,Y: NEXT X
1505 DATA 127,126,28,28,254,255,
30,4
1510 DATA 4,156,254,159,254,252,
28,30
1515 DATA 252,156,158,255,158,15
6,252,4
1520 DATA 156,156,252,156,156,25
2,156,156
1525 DATA 4,252,156,158,255,158,
156,252
1530 DATA 60,60,60,62,63,62,60,4
1535 DATA 4,60,62,63,62,60,60,60
1540 DATA 12,204,204,254,254,255
,206,132
1545 DATA 124,44,44,127,127,255,
57,16
1600 PRINT AT 0,4;E#( TO 23); AT
1,4;E#( TO 23); AT 2,23;E#( TO 9)
1605 PRINT INK 1; AT 2,23;"■"
1610 PRINT PAPER 5; AT 0,27;"MOVE
S"; AT 1,27;"TAKEN"; AT 2,27;"
"
1615 PRINT PAPER 7; INK 2; AT 4,4
;"ONLY ENGINE CAN ENTER TUNNEL"
1700 PRINT PAPER 4; AT 10,4;"USE
ENGINE TO PLACE:- "; AT 11,4;"T
RUCKS IN DEPOT "; AT 12,4
;"CARRIAGES IN STATION "; AT 1
3,4;"ENGINE BACK IN SIDING
"
1705 LET M#="1111"; LET D#="11111111
"; LET S#="11111111"; LET H#=""; L
ET D=1: LET M=0: LET H=9
1710 PRINT INK 2; AT 1,4;E#( TO 5
);M#;E#( TO 12); AT 6,4;E#( TO 13
);D#;E#( TO 5); AT 18,4;E#( TO 13
);S#;E#( TO 5)
1715 PRINT PAPER 5; AT 2,27;"= 0
"
1800 GO SUB 4400
1805 GO SUB 4500
1810 IF INKEY#="U" OR INKEY#="u"
THEN GO SUB 4900: GO TO 1900
1815 IF INKEY#="L" OR INKEY#="l"
THEN GO SUB 4900: GO TO 2200
1820 IF INKEY#="R" OR INKEY#="r"
THEN GO SUB 4900: GO TO 3100
1825 IF INKEY#="S" OR INKEY#="s"
THEN GO SUB 4900: GO TO 1700
1830 GO TO 1810
1900 PRINT AT D-1,9;I#
1905 GO SUB 4600
1910 GO SUB 4900
1915 PRINT AT D-1,9;E#( TO 14)
1920 IF SCREEN# (D,8+U)=" " THEN
  LET Z#=" NO TRAIN UNDER THAT LE
TTER "; GO SUB 4805: GO TO 1800
1925 GO SUB 4400
1930 IF INKEY#="L" OR INKEY#="l"

```



```

    THEN GO SUB 4900: GO SUB 4300:
    GO TO 2000
1935 IF INKEY$="R" OR INKEY$="r"
    THEN GO SUB 4900: GO SUB 4300:
    GO TO 2100
1940 GO TO 1930
2000 IF H=9 AND F<=U THEN LET H$
    =M$(U+1 TO LEN M$): LET M$=M$(1
    TO U): GO TO 2300
2005 IF H=9 AND F>U THEN GO SUB
    4800: GO TO 1800
2010 IF H=22 AND F<=U+LEN M$-14
    THEN LET H$=M$(U+LEN M$-13 TO LE
    N M$): LET M$=M$(1 TO U+LEN M$-1
    4): GO TO 2200
2015 IF H=22 AND F>U+LEN M$-14 T
    HEN GO SUB 4800: GO TO 1800
2100 IF H=9 AND F>=U+1 THEN LET
    H$=M$(1 TO U): LET M$=M$(U+1 TO
    LEN M$): GO TO 3100
2105 IF H=9 AND F<=U THEN GO SUB
    4800: GO TO 1800
2110 IF H=22 AND F>=U+LEN M$-13
    THEN LET H$=M$(1 TO U+LEN M$-14)
    : LET M$=M$(U+LEN M$-13 TO LEN M
    $): GO TO 3200
2115 IF H=22 AND F<U+LEN M$-13 T
    HEN GO SUB 4800: GO TO 1800
2200 IF SCREEN$(D,9)<>" " THEN
    GO TO 2300
2205 LET L$=M$+" "
2210 FOR X=23-LEN L$-LEN H$ TO 9
    STEP -1
2215 PRINT INK 2;AT D,X;L$
2220 BEEP .2,-30
2225 NEXT X
2300 GO SUB 4300
2305 LET S=D
2310 IF S=1 THEN LET B$=H$: LET
    D=18: LET Z=40-LEN S$: GO TO 240
    0
2315 IF S=6 THEN LET D$=H$: LET
    D=18: LET Z=35-LEN S$: GO TO 240
    0
2320 IF S=18 THEN LET S$=H$: GO
    SUB 4700
2325 IF INKEY$="D" OR INKEY$="d"
    THEN LET D=6: LET Z=35-LEN D$:
    GO SUB 4900: GO TO 2400
2330 IF INKEY$="S" OR INKEY$="s"
    THEN LET D=1: LET Z=40-LEN B$:
    GO SUB 4900: GO TO 2400
2335 GO TO 2325
2400 LET L$=E$( TO 4)+M$+E$
2405 LET K$=E$( TO 3+F)+".***"+E
    $
2410 LET U$=E$( TO 3+ABS (D-S))+
    X$+E$
2415 LET U$=E$( TO 2+ABS (D-S)+F
    )+".***"+E$
2420 LET R$=E$+Y$
2425 LET Q$=E$+E$: LET Q$=Q$( TO
    47+LEN M$-F)+".***."+E$( TO F-1)
2500 IF S=1 OR D=1 THEN PRINT AT
    0,3:"/"
2505 IF S=6 OR D=6 THEN PRINT AT
    0,6:"/"
2510 PRINT AT 20,6:"/"

```



```

2515 BEEP .1,20: PAUSE 5: BEEP .
4,20
2520 LET L=0
2525 FOR X=1 TO Z
2600 IF X<=4+ABS (D-3) THEN GO T
O 2700
2605 PRINT AT D,4: INK 2;R$(LEN
R#-L-X+5+ABS (D-3) TO LEN R#);AT
D-1,4: INK 0;Q$(LEN Q#-L-X+5+AB
S (D-3) TO LEN Q#)
2610 IF SCREEN$(D,X+L-ABS (D-3)
)=" " THEN GO TO 2700
2615 IF D=1 THEN LET R#=R#+B$: L
ET L=LEN B#: LET Q#=Q#+E$( TO L)
2620 IF D=6 THEN LET R#=R#+D$: L
ET L=LEN D#: LET Q#=Q#+E$( TO L)
2625 IF D=18 THEN LET R#=R#+S$:
LET L=LEN S#: LET Q#=Q#+E$( TO L
)
2700 IF D<>18 THEN FOR Y=D+1 TO
17: PRINT AT Y,1: INK 2;U$(X+Y-D
-1);AT Y,0: INK 0;U$(X+Y-D-1): N
EXT Y
2705 IF D=18 THEN FOR Y=17 TO S+
1 STEP -1: PRINT AT Y,1: INK 2;U
$(X+17-Y);AT Y,0: INK 0;U$(X+17-
Y): NEXT Y
2800 PRINT AT S,4: INK 2;L$(X TO
X+4+LEN M#);AT S-1,4: INK 0;K$(
X TO X+4+LEN M#)
2900 BEEP .1,-30
2905 NEXT X
3000 PRINT AT D-1,4:E$( TO 23):
IF D<>1 THEN PRINT AT D-1,27:"
"
3005 LET M#=R$(51 TO LEN R#): LE
T H#="": LET H=22
3010 GO TO 4200
3100 IF SCREEN$(D,22)<>" " THEN
GO TO 3200
3105 LET R#=" "+M#
3110 FOR X=9+LEN H# TO 23-LEN R#
3115 PRINT INK 2;AT D,X;R#
3120 BEEP .2,-30
3125 NEXT X
3200 IF D=1 THEN GO TO 3900
3205 GO SUB 4300
3210 LET S=D
3215 IF D=6 THEN LET D#=H#: LET
D=18: LET Z=35-LEN S#: GO TO 330
0
3220 IF D=18 THEN LET S#=H#: LET
D=6: LET Z=35-LEN D#: GO TO 330
0
3300 LET R#=E#+M#+E$( TO 6)
3305 LET Q#=E#+E$: LET Q#=Q$( TO
46+F)+ "***." +E$( TO 5+LEN M#-F)
3310 LET U#=E#
3315 LET L#=Y#+E#
3320 LET K#=E$( TO LEN M#-F)+ ". *
*" +E#
3400 PRINT AT 8,25;"Y";AT 20,25;
"Y"
3405 BEEP .1,20: PAUSE 5: BEEP .
4,20
3410 IF M$(LEN M#)<>"*" AND M$(L
EN M#)<>"*" OR LEN M#>2 THEN GO
TO 4000

```

```

3415 LET L=0
3420 FOR X=1 TO Z
3500 IF X<=15 THEN GO TO 3600
3505 PRINT AT D,44-X-L; INK 2;L$
( TO X+L-15);AT D-1,44-X-L; INK
0;K$( TO X+L-15)
3510 IF SCREEN$( D,43-X-L)=" " T
HEN GO TO 3600
3515 IF D=6 THEN LET L=LEN D$; L
ET D#=D$+L$; LET L$=D$; LET J#=E
$( TO L)+K$; LET K#=J$
3520 IF D=18 THEN LET L=LEN S$;
LET S#=S$+L$; LET L$=S$; LET J#=
E$( TO L)+K$; LET K#=J$
3600 FOR Y=7 TO 17: PRINT AT Y,1
;U$(X+Y-7); NEXT Y
3700 PRINT AT S,23-LEN M$; INK 2
;R$(LEN R$-X-S-LEN M$ TO LEN R$-
X);AT S-1,23-LEN M$; INK 0;0$(LE
N R$-X-S-LEN M$ TO LEN R$-X)
3805 BEEP .1,-30
3810 NEXT X
3815 GO TO 4100
3900 LET Z$=" TRAIN CRASHED INTO
BUFFERS ": GO SUB 4805
3905 LET L$=H$+M$+E$
3910 PRINT INK 2;AT D,9;L$( TO 1
4)
3915 GO TO 4100
4000 IF F<LEN M$-1 THEN LET Z=6
4005 IF F>=LEN M$-1 THEN LET Z=8
4010 FOR X=1 TO Z
4015 PRINT INK 2;AT S,23-LEN M$;
R$(LEN R$-X-S-LEN M$ TO LEN R$-X
); INK 0;AT S-1,23-LEN M$;0$(LEN
R$-X-S-LEN M$ TO LEN R$-X)
4020 BEEP .2,-30
4025 NEXT X
4030 LET Z$="ONLY ENGINE CAN ENT
ER TUNNEL": GO SUB 4805
4035 LET D=3: LET L$=H$+M$+E$
4040 PRINT INK 2;AT D,9;L$( TO 2
0)
4100 PRINT AT D-1,4;E$( TO 23);
IF D<>1 THEN PRINT AT D-1,27;"
"
4105 LET M$=L$(1 TO LEN L$-50);
LET H$="": LET H=9
4200 PRINT AT 0,3;"+";AT 8,6;"+"
;AT 8,25;"+";AT 20,6;"+";AT 20,2
5;"+"
4205 LET M=M+1: PRINT AT 2,29; P
APER S;M
4210 IF D=1 AND M$="1111" AND D$="
1111" AND S$="11111111" THEN PRI
NT PAPER 5;AT 10,4;"WELL DONE!
THERE ARE ";AT 11,4;"3 DIFFERE
NT SOLUTIONS ";AT 12,4;"TAKING
20 OR 22 MOVES. ";AT 13,4;"CAN
YOU FIND THEM ALL? "
4215 GO TO 1800
4300 LET X$=M$: LET Y$=M$
4305 FOR X=1 TO LEN M$
4310 IF M$(X)="1" THEN LET X$(X)
="11": LET Y$(LEN M$+1-X)="11": LE
T F=X
4315 IF M$(X)="11" THEN LET X$(X)

```

```

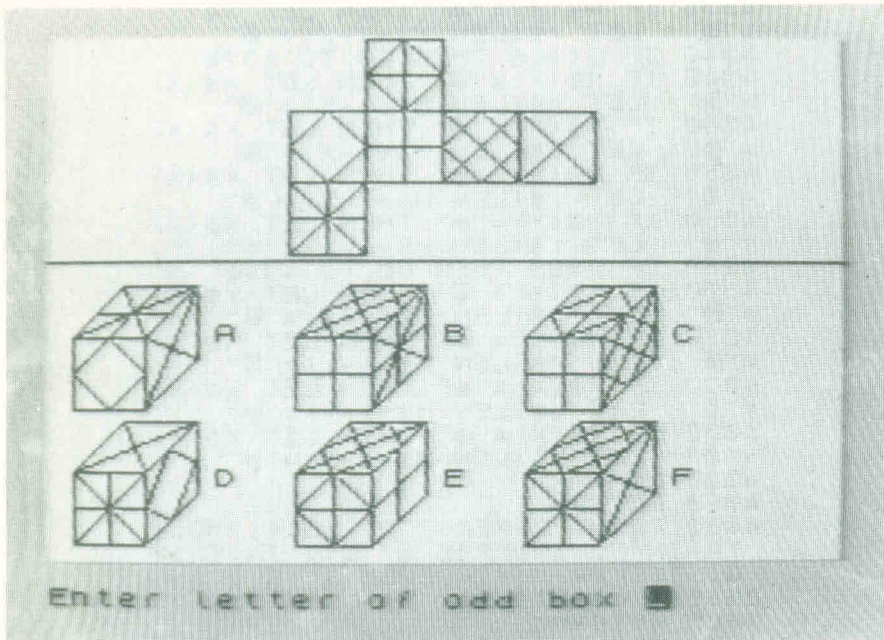
="": LET Y$(LEN M$+1-X)="": LET
T F=X
4320 IF M$(X)=" " THEN LET X$(X)
="": LET Y$(LEN M$+1-X)=" "
4325 IF M$(X)=" " THEN LET X$(X)
="": LET Y$(LEN M$+1-X)=" "
4330 IF M$(X)=" " THEN LET X$(X)
="": LET Y$(LEN M$+1-X)=" "
4340 IF D<>18 THEN GO TO 4370
4345 IF M$(X)=" " THEN LET X$(X)
="": LET Y$(LEN M$+1-X)=" "
4350 IF M$(X)=" " THEN LET X$(X)
="": LET Y$(LEN M$+1-X)=" "
4355 IF M$(X)=" " THEN LET X$(X)
="": LET Y$(LEN M$+1-X)=" "
4360 IF M$(X)=" " THEN LET X$(X)
="": LET Y$(LEN M$+1-X)=" "
4365 IF D=18 THEN GO TO 4390
4370 IF M$(X)=" " THEN LET X$(X)
="": LET Y$(LEN M$+1-X)=" "
4375 IF M$(X)=" " THEN LET X$(X)
="": LET Y$(LEN M$+1-X)=" "
4380 IF M$(X)=" " THEN LET X$(X)
="": LET Y$(LEN M$+1-X)=" "
4385 IF M$(X)=" " THEN LET X$(X)
="": LET Y$(LEN M$+1-X)=" "
4390 NEXT X
4395 RETURN
4400 PRINT PAPER 7;AT 15,4;"MOVE
TRAIN "; INVERSE 1;"L"; INVERSE
0;"EFT OR "; INVERSE 1;"R"; INV
ERSE 0;"IGHT"
4405 RETURN
4500 PRINT PAPER 7;AT 16,4; INVE
RSE 1;"U"; INVERSE 0;"NCOUPLE OR
"; INVERSE 1;"S"; INVERSE 0;"TA
RT AGAIN?"
4505 RETURN
4600 PRINT PAPER 7;AT 15,4;"PRES
S LETTER ON LEFT OF ";AT 16,4;"L
INK TO BE DECOUPLED"
4605 FOR X=1 TO 14
4610 IF INKEY#=W$(X) OR INKEY#=I
$(X) THEN LET U=CODE W$(X)-95: R
ETURN
4615 NEXT X
4620 GO TO 4605
4700 PRINT PAPER 7;AT 15,4;"TRAI
N TO "; INVERSE 1;"D"; INVERSE 0
;"EPOT";AT 16,4;"OR TO "; INVERS
E 1;"S"; INVERSE 0;"IDING?"
4705 RETURN
4800 LET Z$=" ENGINE NOT IN MOVI
NG TRAIN "
4805 PRINT PAPER 7;AT 4,4;E$( TO
28)
4810 FOR X=31 TO 4 STEP -1
4815 PRINT PAPER 7; INK 2;AT 4,X
;Z$( TO 32-X)
4820 BEEP .05,X-20
4825 NEXT X
4830 RETURN
4900 PRINT AT 15,4;E$( TO 24);AT
16,4;E$( TO 24)
4905 RETURN

```

Author: Rev. J. R. Jackson



# Boxing



You will see a plan of a cube with the faces folded out flat. Each face has a different pattern on it. Below this are six cubes in their proper shapes. Five of these cubes could be made from the flat plan. One could not. You have to spot which cube is the odd one.

```

1 REM *****
**
2 REM      BOXING
3 REM *****
**
4 REM
50 LET sidelen=24
50 LET slant=sidelen/SQR (2)
50 LET patts=10
70 DIM S(6,4): RESTORE 8200
75 FOR I=1 TO 6: FOR J=1 TO 4
80 READ S(I,J)
85 NEXT J: NEXT I
100 DIM M$(100)
100 RANDOMIZE
100 GO TO 1000
100 REM ** Message **
110 PRINT AT 20,1: BRIGHT 1: FL
120 1: PAPER 5: INK 0:M$
130 GO SUB 400
130 IF INKEY#(<>)" THEN GO TO 33
0

```



```

335 LET K#=INKEY$: IF K#="" THE
N GO TO 335
337 IF K#>="A" AND K#<="Z" THEN
LET K#=CHR# (CODE (K#)-32)
340 PRINT AT 20,1;" "

345 RETURN
350 REM ** Instruction **
360 PRINT AT 20,1; BRIGHT 1; PA
PER 6; INK 0;M#
365 RETURN
400 REM ** Pips **
410 FOR i=1 TO 2
420 BEEP 0.05,50: PAUSE 2
430 NEXT i
440 RETURN
450 REM ** Draw border **
460 PRINT AT 0,0;"█": FOR i=1 T
O 30: PRINT AT i,0;"█": NEXT i
465 PRINT AT 21,0;"█": FOR i=1
TO 30: PRINT AT 21,i;"█": NEXT i
470 PRINT AT 21,31;"█": FOR i=2
0 TO 1 STEP -1: PRINT AT i,31;"█
": NEXT i
475 PRINT AT 0,31;"█": FOR i=30
TO 1 STEP -1: PRINT AT 0,i;"█":
NEXT i
485 RETURN
500 REM ** Raspberry **
510 BEEP 1,16: BEEP 1,12
520 BEEP .5,25: FOR X=23 TO 17
STEP -0.5: BEEP .1,X: PAUSE 2: N
EXT X
545 RETURN
550 REM ** Congratulations **
555 RESTORE 570
560 READ n,p: BEEP n*0.25,p: IF
n>0 THEN GO TO 560
570 DATA 1,12,1,14,1,16,2,17,2,
5,12
572 DATA 1,17,1,16,1,17,2,19,2,
5,14
574 DATA 1,14,1,16,1,17,1.5,21,
0.5,19
576 DATA 1,19,1,17,1,17,1,16,1,
14,1,16,3,17
580 DATA 0,0
585 RETURN
590 REM
1000 REM ** Show instructions **
1001 REM
1050 PAPER 4: INK 0: BORDER 3: C
LS
1060 RESTORE 8000
1070 PRINT AT 2,0;
1080 READ i#: IF i#<>"0" THEN PR
INT i#: GO TO 1080
1200 LET M#="Press any key to co
ntinue...": GO SUB 300
1999 REM
2000 REM ** Generate puzzle **
2001 REM
2050 RANDOMIZE
2055 PAPER 6: INK 1: BORDER 4: C
LS
2060 DIM p(6): DIM c(4,2): DIM u
(6,2): DIM b(3): DIM l(3)

```

```

2070 FOR i=1 TO 6
2080 LET p(i)=INT (RND*patts)+1
2090 LET used=0
2100 FOR j=1 TO i-1
2110 IF p(j)=p(i) THEN LET used=
1
2120 NEXT j
2130 IF used=1 THEN GO TO 2080
2150 NEXT i
2170 LET start=(256-(4*sidelen))
/2
2180 LET y=125: LET view=1
2200 FOR i=1 TO 4
2210 LET x=start+(i-1)*sidelen
2220 LET side=s(1,i)
2230 GO SUB 3200
2240 NEXT i
2245 LET side=1: LET x=start+(IN
T (RND*4))*sidelen: LET y=y-side
len: GO SUB 3200
2250 LET side=6: LET x=start+(IN
T (RND*4))*sidelen: LET y=y+2*si
delen: GO SUB 3200
2260 PLOT 0,99: DRAW 255,0
2300 LET imposs=1+INT (RND*6)
2320 FOR i=1 TO 6
2330 IF i<>imposs THEN GO SUB 26
00
2340 IF i=imposs THEN GO SUB 280
0
2350 IF i<=3 THEN LET x1=10+72*(
i-1): LET y1=50: LET l=12: LET c
=7+9*(i-1)
2360 IF i>3 THEN LET x1=10+72*(i
-4): LET y1=5: LET l=18: LET c=7
+9*(i-4)
2370 GO SUB 3100
2380 PRINT AT (l,c);CHR$ (64+i)
2390 NEXT i
2400 GO TO 4000
2599 REM
2600 REM * Generate OK box
2601 REM
2620 LET b(1)=1+INT (RND*6)
2630 LET b(2)=s(b(1),1+INT (RND*
4))
2635 LET used=0
2640 FOR p=1 TO i-1
2650 IF u(p,1)=b(1) AND u(p,2)=b
(2) THEN LET used=1
2660 NEXT p
2670 IF used=1 THEN GO TO 2620
2680 LET u(i,1)=b(1): LET u(i,2)
=b(2)
2690 LET p=1
2700 IF s(b(1),p)<>b(2) THEN LET
p=p+1: GO TO 2700
2710 LET p=p+1: IF p>4 THEN LET
p=p-4
2720 LET b(3)=s(b(1),p)
2750 RETURN
2799 REM
2800 REM * Generate impossible bo
x
2801 REM
2820 LET b(1)=1+INT (RND*6)
2830 LET b(2)=s(b(1),1+INT (RND*
4))

```

```

2840 LET p=1
2850 IF s(b(1),p)<>b(2) THEN LET
p=p+1: GO TO 2850
2860 LET p=p+1: IF p>4 THEN LET
p=p-4
2880 LET b(3)=1+INT (RND*6)
2890 IF z(3)=p OR b(3)=b(1) OR b
(3)=b(2) THEN GO TO 2880
2900 RETURN
3000 REM
3100 REM * Subroutine to draw 3d
view of box
3101 REM
3110 FOR s=1 TO 3
3120 LET view=s: LET side=b(s)
3130 LET x=x1: LET y=y1
3140 IF s=2 THEN LET y=y+sidelen
3150 IF s=3 THEN LET x=x+sidelen
3160 GO SUB 3200
3170 NEXT s
3180 RETURN
3190 REM
3200 REM * Subroutine to draw si
de of box given x,y,side,view
3201 REM
3210 LET c(1,1)=x: LET c(1,2)=y
3215 GO SUB 3220+view*30
3220 LET cx=c(1,1)+(c(3,1)-c(1,1
))/2
3222 LET cy=c(1,2)+(c(3,2)-c(1,2
))/2
3223 GO SUB 3350
3225 GO SUB 3400
3230 GO SUB 3400+p(side)*20
3240 RETURN
3250 LET c(2,1)=x: LET c(2,2)=y+
sidelen
3255 LET c(3,1)=x+sidelen: LET c
(3,2)=y+sidelen
3260 LET c(4,1)=x+sidelen: LET c
(4,2)=y
3270 RETURN
3280 LET c(2,1)=x+slant: LET c(2
,2)=y+slant
3285 LET c(3,1)=x+sidelen+slant:
LET c(3,2)=y+slant
3290 LET c(4,1)=x+sidelen: LET c
(4,2)=y
3300 RETURN
3310 LET c(2,1)=x: LET c(2,2)=y+
sidelen
3315 LET c(3,1)=x+slant: LET c(3
,2)=y+sidelen+slant
3320 LET c(4,1)=x+slant: LET c(4
,2)=y+slant
3330 RETURN
3350 REM Subroutine to find midj
point of each side
3355 DIM m(4,2)
3360 FOR z=1 TO 3
3370 LET m(z,1)=c(z,1)+(c(z+1,1)
-c(z,1))/2
3380 LET m(z,2)=c(z,2)+(c(z+1,2)
-c(z,2))/2
3390 NEXT z
3392 LET m(4,1)=c(4,1)+(c(1,1)-c
(4,1))/2
3394 LET m(4,2)=c(4,2)+(c(1,2)-c

```

```

(4,2))/2
3395 RETURN
3400 REM * Draw basic side *
3405 PLOT c(1,1),c(1,2): DRAW c(
2,1)-c(1,1),c(2,2)-c(1,2)
3407 DRAW c(3,1)-c(2,1),c(3,2)-c
(2,2)
3410 DRAW c(4,1)-c(3,1),c(4,2)-c
(3,2)
3412 DRAW c(1,1)-c(4,1),c(1,2)-c
(4,2)
3415 RETURN
3420 REM Diagonal cross
3422 DRAW c(3,1)-c(1,1),c(3,2)-c
(1,2)
3425 PLOT c(2,1),c(2,2): DRAW c(
4,1)-c(2,1),c(4,2)-c(2,2)
3430 RETURN: REM diagonal cross
3440 REM Circle
3445 CIRCLE cx,cy,sidelen/6
3450 RETURN
3460 REM Cross
3465 PLOT m(1,1),m(1,2): DRAW m(
3,1)-m(1,1),m(3,2)-m(1,2)
3470 PLOT m(2,1),m(2,2): DRAW m(
4,1)-m(2,1),m(4,2)-m(2,2)
3474 RETURN
3475 RETURN
3480 REM Double cross
3485 GO SUB 3420: GO SUB 3460
3495 RETURN
3500 REM Diamond
3505 FOR z=1 TO 3
3510 PLOT m(z,1),m(z,2): DRAW m(
z+1,1)-m(z,1),m(z+1,2)-m(z,2)
3512 NEXT z
3515 PLOT m(4,1),m(4,2): DRAW m(
1,1)-m(4,1),m(1,2)-m(4,2)
3519 RETURN
3520 REM Cross hatch
3525 GO SUB 3420: GO SUB 3500
3535 RETURN
3540 REM Circle on diamond
3545 GO SUB 3460: GO SUB 3500
3555 RETURN
3560 REM Circle on cross
3565 GO SUB 3440: GO SUB 3460
3575 RETURN
3580 REM Circle on diagonal cross
3585 GO SUB 3420: GO SUB 3440
3595 RETURN
3600 REM Blank side
3615 RETURN
3900 GO TO 3400
3999 REM
4000 REM ** Accept answer **
4001 REM
4050 INPUT "Enter letter of odd
box ": LINE r$
4060 LET r$=r$( TO 1)
4070 LET answer=CODE r$: IF answ
er>90 THEN LET answer=answer-32
4080 LET answer=answer-64
4090 IF answer=imposs THEN LET o
k=1
4100 IF answer<>imposs THEN LET
ok=0

```



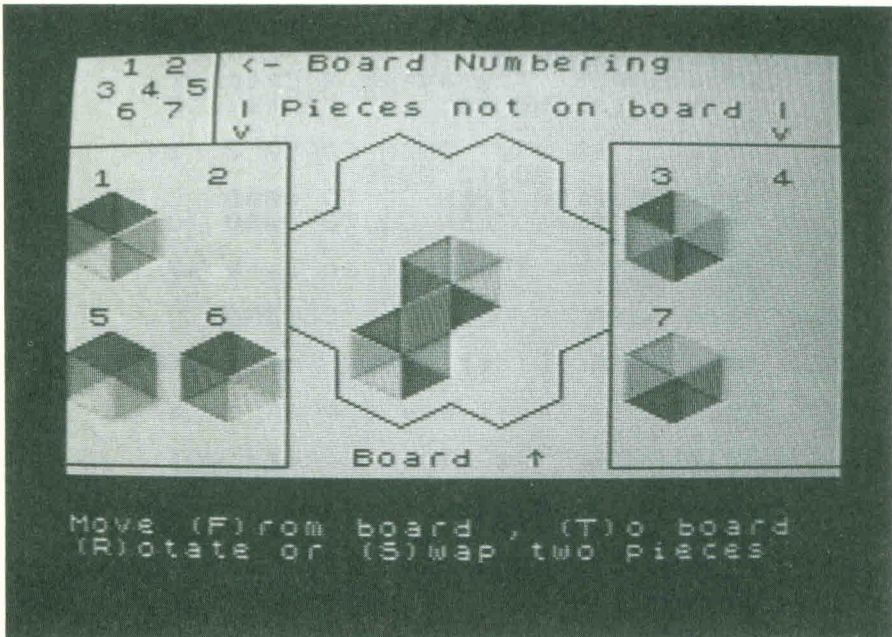
```

4490 REM
4500 REM ** Check answer **
4501 REM
4550 IF ok=0 THEN PRINT #0;"Sorr
y - that's not right !": GO SUB
500: PAUSE 0
4570 IF ok=1 THEN PRINT #0;"Well
found - quite correct !": GO SU
B 550: PAUSE 0
4580 INPUT "Try again ? Enter Y
or N  ": LINE k$: LET k#=k$( TO
1)
4590 IF k#<>"y" THEN PAPER 7: IN
K 0: CLS : GO TO 9999
4600 IF ok=0 THEN GO TO 4000
4610 IF ok=1 THEN GO TO 2000
7999 REM
8000 REM ** Instruction data **
8001 REM
8010 DATA "          BOXING","
"
8020 DATA "After these instructi
ons, you"
8030 DATA "will see a plan of a
cube with"
8040 DATA "the faces folded out
flat."
8050 DATA "Each face has a diffe
rent","pattern on it.","," "
8060 DATA "Below this are six cu
bes"
8070 DATA "in their proper shape
s. Five"
8080 DATA "of these cubes could
be made"
8090 DATA "from the flat plan."
8100 DATA "One could not. You h
ave to"
8110 DATA "spot which cube is th
e odd one.","," "
8120 DATA "Enjoy yourself !"
8130 DATA "©"
8140 REM
8200 REM * Sides adjoining each
side of cube in clockwise order
8201 REM
8210 DATA 0,3,5,4
8220 DATA 0,0,1,4
8230 DATA 0,0,5,1
8240 DATA 2,1,0,0
8250 DATA 4,2,3,0
8260 DATA 2,4,0,0
8270 GO TO 9000
8300 INPUT "File to save ? "; LI
NE f#
8310 SAVE "#";1;f#
8320 GO TO 9000
8400 INPUT "File to erase ? "; L
INE f#
8410 ERASE "#";1;f#
8420 GO TO 9999

```

Author: P. Payne

# Blocks



This program presents you with seven six-sided blocks. You have to arrange the seven blocks so that the adjacent sides are of the same colour. The program allows you to rotate the blocks – but you will find it much more difficult than it at first seems.

```

1 REM
2 REM          BLOCKS PUZZLE
                BY M.TRINDER.

3 REM
4 REM  Graphics Characters

A- B- C- D-
(See line 5000)

5 PAPER 7: INK 0: BORDER 0: C
LS : PRINT "          Blocks Puz
le by" "          M.Trinder
1984" " " "Press 'I' for instr
uctions, 'P' to Play."
6 IF INKEY#="I" OR INKEY#="i"
THEN GO TO 8000
7 IF INKEY#(">"p" AND INKEY#(">"P" THEN GO TO 6
10 GO SUB 4000

```

```

20 DIM c$(7,5): DIM Z(5)
30 GO SUB 4020
40 DIM b$(7,5): FOR a=1 TO 7:
LET b$(a)="777777": NEXT a
50 CLS
55 GO SUB 9000
58 FOR i=24 TO 28: PLOT 0,i: D
RAW 255,0: NEXT i: PAPER 0: INK
7: PRINT AT 19,0): "
"
60 INK 0: PAPER 7: GO SUB 4040
61 LET Z=1
62 IF b$(z)="777777" THEN GO T
O 70
63 LET z=z+1: IF z<>8 THEN GO
TO 62
65 IF b$(1,3)=b$(4,6) AND b$(1
,4)=b$(3,1) AND b$(1,2)=b$(2,5)
AND b$(3,2)=b$(4,5) AND b$(2,4)=
b$(4,1) AND b$(2,3)=b$(5,6) AND
b$(4,2)=b$(5,5) AND b$(3,3)=b$(6
,6) AND b$(6,1)=b$(4,4) AND b$(6
,2)=b$(7,5) AND b$(7,6)=b$(4,3)
AND b$(7,1)=b$(5,4) THEN GO TO 7
000
70 PAPER 0: INK 7: PRINT AT 20
,0):"Move (F)rom board, (T)o boa
rd (R)otate or (S)wap two piece
s " : LET a#=INKEY#: IF a#="" T
HEN GO TO 70
80 IF a#<>"f" AND a#<>"t" AND
a#<>"r" AND a#<>"s" THEN GO TO 7
0
85 PRINT AT 20,0): "
"
90 LET bad=0: IF a#="f" THEN G
O SUB 1000
100 IF a#="t" THEN GO SUB 2000
110 IF a#="r" THEN GO SUB 3000
120 IF a#="s" THEN GO SUB 500
130 IF bad THEN PRINT AT 20,0): "
  Sorry - you can't do that." :
BEEP .5, -20: PRINT AT 20,0): "
" : GO TO 70
140 GO TO 60
500 PRINT AT 20,0): "Swap - (1-7)
" : LET f#=INKEY#: IF f#<"1" OR f
#>"7" THEN GO TO 500
510 PRINT AT 20,0): "With - (1-7)
" : PAUSE 0: PAUSE 0
511 LET t#=INKEY#: IF t#<"1" OR
t#>"7" THEN GO TO 511
512 LET f=VAL f#: LET t=VAL t#
513 IF f=t THEN LET bad=1: RETU
RN
520 LET a#=b$(t): LET b$(t)=b$(
f): LET b$(f)=a#: RETURN
1000 PRINT AT 20,0): "From board p
osition - (1-7)": LET f#=INKEY#:
IF f#<"1" OR f#>"7" THEN GO TO
1000
1001 LET f=VAL f#
1010 IF b$(f,1)="7" THEN LET bad
=1: RETURN
1020 FOR a=1 TO 7: IF c$(a,1)="7
" THEN LET c$(a)=b$(f): LET b$(f

```



```

1="7777777": RETURN
1030 NEXT a: BEEP 3,30: STOP
2000 PRINT AT 20,0:"To board pos
ition - (1-7)": LET t#=INKEY$: I
F t#<"1" OR t#>"7" THEN GO TO 20
00
2010 PRINT AT 20,0:"Which piece
- (1-7) ": PAUSE 0: PAUSE
0
2011 LET p#=INKEY$: IF p#<"1" OR
p#>"7" THEN GO TO 2011
2012 LET t=VAL t$: LET p=VAL p#
2020 IF c$(p,1)="7" THEN LET bad
=1: RETURN
2030 IF b$(t,1)<>"7" THEN LET ba
d=1: RETURN
2040 LET b$(t)=c$(p): LET c$(p)=
"7777777": RETURN
3000 PRINT AT 20,0:"Which piece
to rotate - (1-7)": LET p#=INKEY
$: IF p#<"1" OR p#>"7" THEN GO T
O 3000
3001 LET p=VAL p#
3010 IF b$(p,1)="7" THEN LET bad
=1: RETURN
3020 LET a#=b$(p,1): LET b$(p, T
O 5)=b$(p,2 TO ): LET b$(p,6)=a#
: RETURN
4000 RESTORE 9998: FOR a=1 TO 3:
READ b,c: POKE USR "a"+a,b: POK
E USR "d"+a,c: POKE USR "b"+a+4,
b: POKE USR "c"+a+4,c: NEXT a
4010 POKE USR "a",255: POKE USR
"d",255: FOR a=0 TO 4: POKE USR
"b"+a,255: POKE USR "c"+a,255: N
EXT a
4015 FOR a=4 TO 7: POKE USR "a"+
a,0: POKE USR "d"+a,0: NEXT a: R
ETURN
4020 RESTORE 9999
4030 FOR a=1 TO 7: READ c$(a): N
EXT a: RETURN
4040 PRINT AT 0,0:" 1 2": PRINT
" 3 4 5": PRINT " 6 7"
4050 PRINT : PRINT
4060 PRINT " 1 2":AT 5,24:"3
4":AT 11,1:"5 6":AT 11,24:
"7"
4070 LET i=7: LET i2=i: LET p=i:
LET p2=i
4080 RESTORE 9997: FOR a=1 TO 7:
READ x,y: FOR b=1 TO 6: LET z(b
)=VAL c$(a,b): NEXT b: GO SUB 50
00: NEXT a
4090 LET p=VAL b$(3,1): LET p2=V
AL b$(4,6): LET y=5: LET x=12: F
OR b=1 TO 6: LET z(b)=VAL b$(1,b
): NEXT b: GO SUB 5000
4100 LET p=VAL b$(4,1): LET p2=V
AL b$(5,6): LET y=5: LET x=16: F
OR b=1 TO 6: LET z(b)=VAL b$(2,b
): NEXT b: GO SUB 5000
4110 LET i2=VAL b$(1,4): LET p=7
: LET p2=VAL b$(6,6): LET y=8: L
ET x=10: FOR b=1 TO 6: LET z(b)=
VAL b$(3,b): NEXT b: GO SUB 5000
4120 LET i=VAL b$(1,3): LET i2=0

```



```

AL b$(2,4): LET p=VAL b$(6,1): L
ET p2=VAL b$(7,6): LET y=8: LET
x=14: FOR b=1 TO 6: LET z(b)=VAL
b$(4,b): NEXT b: GO SUB 5000
4130 LET i=VAL b$(2,3): LET i2=7
: LET p2=7: LET p=VAL b$(7,1): L
ET y=8: LET x=18: FOR b=1 TO 6:
LET z(b)=VAL b$(5,b): NEXT b: GO
SUB 5000
4140 LET i=VAL b$(3,3): LET i2=V
AL b$(4,4): LET p=7: LET x=12: L
ET y=11: FOR b=1 TO 6: LET z(b)=
VAL b$(6,b): NEXT b: GO SUB 5000
4150 LET i=VAL b$(4,3): LET i2=V
AL b$(5,4): LET y=11: LET x=16:
FOR b=1 TO 6: LET z(b)=VAL b$(7,
b): NEXT b: GO SUB 5000
4160 RETURN
5000 LET a$="▲": LET d$="▼"
5005 REM "AB"
5010 PRINT AT y,x: INK i: PAPER
z(b);d$: INK i2: PAPER z(1);a$:A
T y+1,x: INK z(6): PAPER z(5);a$
: INK z(1): PAPER z(2);d$:AT y+2
,x: PAPER z(4): INK z(5);d$: PAP
ER z(3): INK z(2);a$:AT y+3,x: P
APER p: INK z(4);a$: PAPER p2: I
NK z(3);d$: RETURN
7000 DIM a$(704): OVER 1: INVERS
E 1: FOR i=1 TO 4: PRINT AT 0,0:
a$: NEXT i: INVERSE 0: OVER 0:
CLS: PRINT "*****" : INK 6: P
APER 2: FLASH 1:"Congratulations
- you did it:"
7010 PRINT "Press : "/"R - to
re-run""Q - to stop"
7020 IF INKEY$="r" OR INKEY$="R"
THEN RUN
7030 IF INKEY$="" THEN GO TO 702
0
7040 CLS : STOP
8000 CLS : PRINT "Instructions":
PRINT "
8010 PRINT "Arrange the 7 Bloc
ks so that theadjacent sides of
the blocks areof the same colour
. This is muchmore difficult tha
n it at first seems."
8020 PRINT AT 20,5:"Press any ke
y to play"
8030 IF INKEY$="" THEN GO TO 803
0
8040 GO TO 10
9000 PLOT 75,88: DRAW 0,24: DRAW
16,8: DRAW 0,16: DRAW 20,10: DR
AU 16,-8: DRAW 16,8: DRAW 20,-10
: DRAW 0,-16: DRAW 16,-8: DRAW 0
,-32
9010 DRAW -16,-8: DRAW 0,-16: DR
AU -20,-10: DRAW -16,8: DRAW -16
,-8: DRAW -20,10: DRAW 0,16: DRA
U -16,8: DRAW 0,8
9020 PLOT 0,32: DRAW 75,0: DRAW
0,111: DRAW -75,0: PLOT 255,32:
DRAW -76,0: DRAW 0,111: DRAW 76,
0
9030 PLOT 50,175: DRAW 0,-31

```

```

9040 PRINT AT 0,7;"<- Board Numbering"
9050 PRINT AT 17,12;"Board ↑"
9060 PRINT AT 2,7;"| Pieces not on board |"
9070 PRINT AT 3,7;"v";AT 3,29;"v"

9100 RETURN
9200 REM

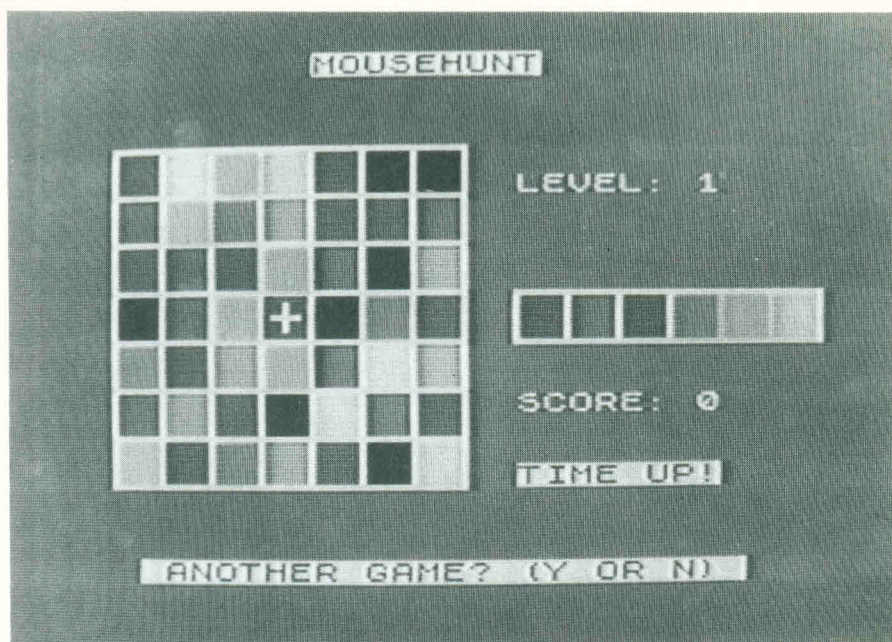
9210 SAVE "BLOCKS" LINE 5
9220 REM

9230 STOP
9997 DATA 0,6,5,6,23,6,26,6,0,12,5,12,23,12
9998 DATA BIN 00111111,BIN 11111100,BIN 00001111,BIN 11110000,BIN 00000011,BIN 11000000
9999 DATA "163542","432561","561432","652413","246531","165342","541263"

```

*Author:* M. Trinder

# Mousehunt



An invisible mouse is running around beneath a grid of coloured tiles. The object is to track it down. Your own position is indicated by a cross and you move by using the cursor keys (5 to 8). The six squares on the right show the colours of the last six tiles which the mouse has passed under, with the current tiles on the far right. When you think you are directly over the mouse, press "0". At the start of each game you are asked to choose a level of difficulty, from 1 (hard) to 7 (easy). The score for each game starts at 100 and goes down by 1 each time the mouse moves, and by 5 each time you aim at it but miss. The purpose of the game is to achieve a score as close as possible to 100.

```

10 RANDOMIZE : BORDER 1: PAPER
1: CLS
20 GO SUB 9800
30 GO SUB 9000
40 GO TO 1000
100 REM print cross
110 PRINT PAPER 8; OVER 1; AT 2+
2*PX, 1+2*PY; "1"; AT 3+2*PX, 1+2*P
Y; "1": RETURN : REM graphics "A
B" and "DC"

```

```

1000 REM main loop
1020 LET r=INT (RND*4): LET xa=m
x+(r=0)-(r=1): LET ya=my+(r=2)-(
r=3)
1030 IF xa<1 OR xa>7 OR ya<1 OR
ya>7 THEN GO TO 1020
1040 LET mx=xa: LET my=ya: FOR n
=2 TO 18 STEP 4: LET a$(n)=a$(n+
4): NEXT n: LET a$(22)=CHR$ a(mx
,my)
1050 BEEP .05,50: FOR n=10 TO 11
: PRINT OVER 1: INK 7:AT n,19;a$
: NEXT n
1100 FOR n=1 TO 10*1
1110 LET i#=INKEY$
1120 IF i#>"4" AND i#<"9" THEN G
O TO 1200
1125 IF i#="0" THEN GO TO 1300
1130 NEXT n: LET sc=sc-(sc>0): P
RINT AT 14,26;sc): " ": IF NOT sc
THEN GO TO 2000
1199 GO TO 1020
1200 INK 7: GO SUB 100: LET px=p
x+(i#="6" AND px<7)-(i#="7" AND
px>1): LET py=py+(i#="8" AND py<
7)-(i#="5" AND py>1)
1210 INK 9: GO SUB 100: GO TO 11
30
1300 IF px=mx AND py=my THEN GO
TO 1350
1310 PRINT INVERSE 1:AT 17,20;"M
ISSED!": BEEP .2,-40: BEEP .3,-4
8: LET sc=sc-5*(sc>5): PRINT AT
14,26;sc): " "
1320 FOR p=0 TO 20: NEXT p: PRIN
T PAPER 1:AT 17,20:" "
1330 GO TO 1130
1350 PRINT INVERSE 1:AT 17,21;"H
IT!": FOR s=45 TO 40 STEP -1: B
EEP .03,s: NEXT s: FOR s=40 TO 5
0: BEEP .03,s: NEXT s: GO TO 205
0
2000 REM end
2010 PRINT INVERSE 1:AT 17,19;"T
IME UP!": BEEP .3,-40: BEEP 1,-5
6
2050 PAUSE 1: PAUSE 50: PRINT IN
VERSE 1:AT 21,4)" ANOTHER GAME?
(Y OR N) "
2060 POKE 23658,8: LET i#=INKEY$
: IF i#="N" THEN STOP
2070 IF i#="Y" THEN CLS : GO TO
30
2080 GO TO 2050
9000 REM init/display
9010 DIM a(7,7): DIM a$(24): DIM
e$(22)
9020 FOR n=1 TO 21 STEP 4: LET a
$(n TO n+1)=CHR$ 17+CHR$ 7: NEXT
n
9030 LET mx=INT (RND*7)+1: LET m
y=INT (RND*7)+1: LET px=4: LET p
y=4: LET sc=100
9200 INK 7: PRINT INVERSE 1:AT 0
,11:"MOUSEHUNT"
9210 FOR n=23 TO 135 STEP 16: FO
R o=0 TO 1: PLOT n+o,33: DRAW 0,

```



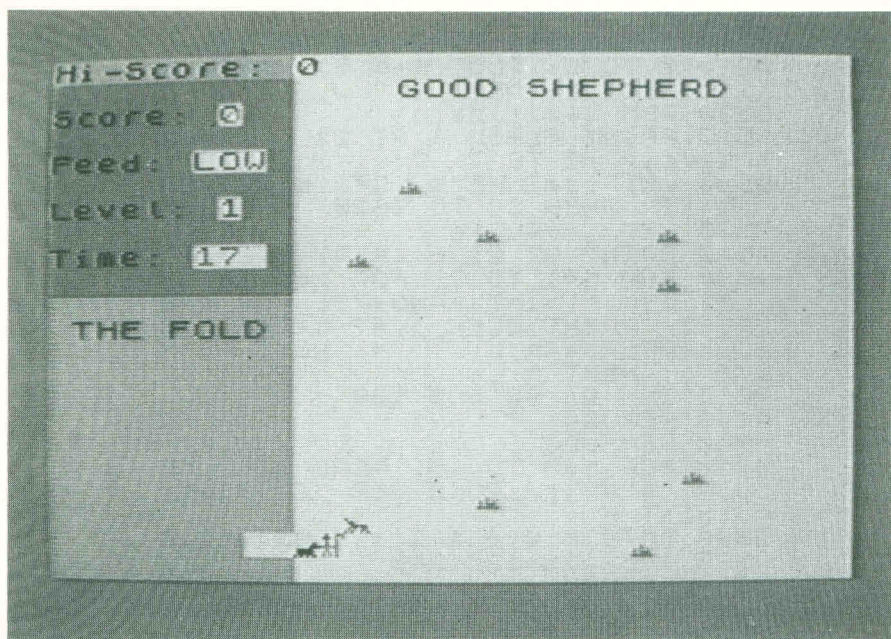
```

109: PLOT 23,8+n+0: DRAW 113,0:
NEXT o: NEXT n
9220 PRINT AT 5,19;"LEVEL:";AT 1
4,19;"SCORE: 100"
9230 FOR n=79 TO 95 STEP 16: FOR
o=0 TO 1: PLOT 151,n+0: DRAW 97
,0: NEXT o: NEXT n
9240 FOR n=151 TO 247 STEP 16: F
OR o=0 TO 1: PLOT n+0,81: DRAW 0
,13: NEXT o: NEXT n
9500 REM level/paint
9510 PRINT FLASH 1;AT 21,6;" Wha
t level? (1 TO 7) "
9520 LET i#=INKEY$: IF i#<"1" OR
i#>"7" THEN GO TO 9520
9530 LET l=VAL i#
9540 PRINT AT 21,6;e#;AT 5,26;l
9600 FOR n=1 TO 7: FOR o=1 TO 7:
LET a(n,o)=INT (RND*7): FOR p=2
TO 3: PRINT OVER 1;AT n*2+p,o*2
+1: PAPER a(n,o);" " : NEXT p: N
EXT o: NEXT n
9610 INK 9: GO SUB 100
9699 RETURN
9800 REM UDG
9810 FOR n=0 TO 15: READ r: POKE
USR "a"+n,r: POKE USR "a"+31-n,
r: NEXT n
9820 DATA 0,0,0,1,1,1,1,31,0,0,0
,128,128,128,128,248
9899 RETURN

```

*Author:* S. A. Fisk

# Good Shepherd



Your task is to lead the sheep to good pasture, and protect them from the wolf, who's hungry for a good bit of mutton.... When you have successfully fed the sheep, you take them back to the fold and take out a large flock to care for. You can kill the wolf by running him down with the shepherd; but watch out, because he's a tricky customer! Keyboard controls are: left "Q"; right "W"; up "P"; down "L".

```
1 RUN 9300
5 REM SET UP VARIABLES AND
  ARRAYS
8 LET H=0
11 BORDER 3
12 DIM W(250,2): DIM S(250,2)
13 LET W=1
14 LET S=0
17 LET F=0: LET G=2
18 LET E=0
30 LET L=1: LET T=1
35 REM LINES 36 - 45 JUST TURN
  CAPS LOCK ON
36 LET X=INT (PEEK 23658/8)
40 LET Y=2*INT (INT (PEEK 2365
8/8)/2)
```

```

45 IF X=Y THEN RANDOMIZE USR 4
317
50 REM SET UP INITIAL SCREEN
   TO START GAME
60 CLS
61 LET A$=""
62 REM TEN SPACES
63 INK 0
64 BRIGHT 0
65 PAPER 5
70 FOR n=0 TO 9
80 PRINT AT N,0;A$
90 NEXT n
92 PRINT AT 2,0;"Score:"
94 PRINT AT 4,0;"Feed:"
96 PRINT AT 6,0;"Level:"
97 PRINT AT 8,0;"Time:"
98 PAPER 7
99 PRINT AT 0,0; INK 0;"Hi-Sco
re:"
100 PAPER 5
110 FOR N=10 TO 21
120 PRINT AT n,0;A$
130 NEXT n
135 PRINT AT 11,1;"THE FOLD"
140 INK 7; PAPER 7; BRIGHT 1
150 LET A$=A$+A$+" "
160 FOR N=0 TO 21
170 PRINT AT N,10;A$
180 NEXT N
185 PRINT AT 0,10; INK 0;H
190 PRINT AT 1,14; INK 0;"GOOD
SHEPHERD"
320 FOR N=1 TO 3+(L*5)
324 LET A=2+RND*19
326 LET B=10+RND*21
330 PRINT AT A,B; INK 4;CHR$ 14
4
335 REM CHR$ 144= GRAPHICS A =
   GRASS
340 NEXT N
345 LET W(T,2)=10+RND*5+L
350 LET W(T,1)=12+RND*3-L
360 PRINT AT W(T,1),W(T,2); INK
   1;CHR$ 145
370 REM CHR$ 145= GRAPHICS "B"=
   WOLF
380 LET S(T+L,1)=20
390 LET S(T+L,2)=9
400 FOR N=1 TO L
405 LET S(T+L-N,1)=20
410 LET S(T+L-N,2)=9-N
420 NEXT N
425 INK 3
430 PRINT AT S(T+L,1),S(T+L,2);
CHR$ 146
431 REM CHR$ 146= GRAPHICS"C"=
   SHEPHERD
435 INK 2
440 FOR N=1 TO L
445 LET A=S(T+L-N,1)
446 LET B=S(T+L-N,2)
450 PRINT AT A,B; INK 0;CHR$ 14
7
455 REM CHR$ 147= GRAPHICS "D"=
   SHEEP
460 NEXT N

```

```

950 PRINT AT 5,7;L
960 FOR N=1 TO 90: NEXT N
970 PRINT AT 4,6;"LOW"
1000 REM MAIN LOOP TO RUN GAME
1005 PRINT AT 2,7;S
1006 PRINT AT 8,6;151-T;
1007 IF 151-T<100 THEN PRINT " "
1010 LET T=T+1
1015 LET A#=INKEY$
1016 IF T<3+L AND A#="" THEN LET
A#="U"
1020 LET A=S(T+L-1,1)+(A#="L")-(
A#="P")
1025 LET B=S(T+L-1,2)+(A#="U")-(
A#="Q")
1030 IF A=20 AND B<10 THEN GO TO
3100
1040 LET S(T+L,1)=A+(A<2)-(A>21)
1050 LET S(T+L,2)=B+(B<10)-(B>31)
1060 LET A=ATTR (S(T+L,1),S(T+L,
2))
1065 IF A=124 THEN GO SUB 3000
1070 IF A=121 THEN GO SUB 5500
1080 IF A=120 THEN GO TO 5000
1090 IF A=40 THEN GO TO 6000
1092 IF S(T+L,1)=S(T+L-1,1) THEN
GO TO 4500
1100 INK 3
1101 PRINT AT S(T+L,1),S(T+L,2);
CHR$ 146
1104 LET A=S(T+L-1,1)
1105 PRINT AT A,S(T+L-1,2); INK
0;CHR$ 147
1110 PRINT AT S(T-1,1),S(T-1,2);
" "
1200 IF NOT W THEN GO TO 1500
1210 LET A=W(T-1,1)+(W(T-1,1)<S(
T,1))
1215 LET A=A-(W(T-1,1)>S(T,1))
1220 LET B=W(T-1,2)+(W(T-1,2)<S(
T,2))
1222 LET B=B-(W(T-1,2)>S(T,2))
1225 IF ATTR (A,B)=120 THEN GO T
O 3200
1230 LET W(T,1)=A+(A<3)-(A>20)
1240 LET W(T,2)=B+(B<11)-(B>30)
1250 LET A=ATTR (W(T,1),W(T,2))
1260 IF A=120 THEN LET E=1
1270 IF A=123 THEN LET W(T,1)=W(
T-1,1)
1275 IF A=123 THEN LET W(T,2)=W(
T-1,2)
1280 PRINT AT W(T-1,1),W(T-1,2);
" "
1290 PRINT AT W(T,1),W(T,2); INK
1;CHR$ 145
1300 IF E THEN GO TO 6500
1510 IF T=152 THEN GO TO 4000
2000 GO TO 1001
3000 REM EATEN GRASS
3005 BEEP .02,50: LET S=S+1: LET
F=F+1
3010 IF G<F THEN PRINT AT 4,6;"O
.K."
3020 RETURN
3100 LET S(T+L,1)=A: LET S(T+L,2
)=B

```



```

3110 GO TO 1050
3201 LET W(T,1)=A: LET W(T,2)=B:
GO TO 1250
4000 REM LOSE - OUT OF TIME
4005 PRINT AT 13,0;"TIME UP!  "
"YOU SHOULD"
4010 PRINT "BE BACK BY""NOW. YO
U ""LOSE!
4020 GO TO 6550
4500 LET A=S(T+L-1,2)
4501 IF S(T+L,2)<>A THEN GO TO 1
093
4505 FOR N=L TO 1 STEP -1
4510 LET S(T+N-1,2)=S(T+N-2,2)
4520 LET S(T+N-1,1)=S(T+N-2,1)
4530 NEXT N
4540 GO TO 1200
5000 REM LOSE - SHEPHERD
COLLIDES WITH A SHEEP
5010 PRINT AT S(T+L-1,1),S(T+L-1
,2);""
5015 FOR N=1 TO 14
5020 PRINT AT S(T+L,1),S(T+L,2);
CHR# 148
5025 BEEP RND*.01,10+RND*15
5030 PRINT AT S(T+L,1),S(T+L,2);
CHR# 149
5035 BEEP RND*.01,10+RND*15
5045 NEXT N
5050 INK 0: PAPER 5
5060 PRINT AT 13,0;"YOU SHOULD""
"LEAD THE ""
5065 PRINT "SHEEP: NOT""CRASH I
NTO""THEM!
5070 GO TO 6550
5500 REM WOLF KILLED
5600 LET W=0
5610 FOR N=20 TO 45 STEP 1
5611 LET A=W(T-1,1)
5615 PRINT AT A,W(T-1,2); INK 2;
CHR# 145
5618 BEEP .004,N
5620 LET A=W(T-1,1)
5621 PRINT AT A,W(T-1,2); INK 3;
CHR# 147
5622 BORDER (N-20)/4
5623 LET A=W(T-1,1)
5624 PRINT AT A,W(T-1,2); INK 1;
CHR# 149
5625 NEXT N
5630 FOR N=1 TO 4+L
5632 LET S=S+1
5634 PRINT AT 2,7;S
5636 BEEP .1,20
5638 NEXT N
5665 BORDER 3
5690 RETURN
6000 REM WON - NEW LEVEL
6005 GO SUB 6200
6007 LET G=G+2
6010 FOR N=1 TO (150-T)/15
6012 LET S=S+1
6014 PRINT AT 2,7;S
6015 BEEP .1,30
6016 NEXT N
6020 LET L=L+1
6025 IF L=9 THEN LET L=6
6030 LET T=1

```

```

6050 LET F=0
6100 GO TO 60
6200 REM CHECK ENOUGH FOOD EATEN
6210 IF G>=F THEN GO TO 6400
6230 IF NOT W THEN LET W=1
6240 FOR N=1 TO 19
6250 BEEP .05,10+N
6260 NEXT N
6290 RETURN
6400 REM LOSE - NOT FED ENOUGH
      FOOD
6401 PRINT AT 13,0;"YOU DIDN'T"/
"LET THEM "
6405 PRINT "EAT ENOUGH"/"FOOD! Y
OU " "LOSE!
6410 GO TO 6550
6500 REM LOSE - WOLF EATS SHEEP
6501 INK 0: PAPER 5
6505 FOR N=1 TO 10
6510 BEEP .5/N,-10-N
6515 NEXT N
6520 PRINT AT 13,0;"SORRY, YOU"/
"LOST: BUT "
6540 PRINT "THE WOLF " "ENJOYED
" "HIS LUNCH!"
6550 REM LOST - SET HIS CORE AND
      OFFER NEW GAME
6551 FOR N=1 TO 9
6552 BEEP RND*.1,10+(RND*40)
6554 NEXT N
6555 PRINT "PRESS Y TO" "PLAY A
GAIN"
6900 IF S>H THEN LET H=S
7000 LET A#=INKEY$
7010 IF A#<>"Y" THEN GO TO 7000
7020 GO TO 10
9000 REM USER GRAPHICS
9005 RESTORE
9010 FOR N=1 TO 6
9020 READ A#
9030 FOR M=0 TO 7
9040 READ A
9050 POKE USR A#+M,A
9060 NEXT M
9070 NEXT N
9080 RETURN
9100 DATA "A",0,0,0,0,8,42,46,12
7
9110 DATA "B",0,0,0,128,96,62,86
,165
9120 DATA "C",39,117,36,36,252,3
6,84,84
9130 DATA "D",0,0,0,2,7,124,124,
170
9140 DATA "E",64,73,46,28,124,16
6,42,200
9150 DATA "F",128,86,59,36,166,9
0,69,100
9200 REM CRIMMOND
9210 FOR N=1 TO 34
9220 READ A: READ B: BEEP A/5,B
9230 NEXT N
9240 DATA 2,0,4,9,1,10,1,7,4,12,
1,10,1,7
9250 DATA 4,5,2,4,4,5,2,9,2,9,2,
7,2,7,4,11,2
9260 DATA 11,10,12,2,9,2,9,2,10,
2,9,4,7,2,9,2

```

```

9270 DATA 10,2,12,2,10,4,9,2,9,2
,7,2,10,2,14
9280 DATA 4,5,2,4,8,5
9290 RETURN
9300 REM INITIAL INSTRUCTIONS
9310 INK 0: PAPER 6: BRIGHT 1: C
LS
9320 PRINT AT 1,9;"GOOD SHEPHER
D."
9330 PRINT AT 3,3;"COPYRIGHT ";
9335 PRINT ;"S.SPRINGETT 1984"
9340 PRINT "Your task is to lea
d the sheep"
9345 PRINT "to good pasture,
and protect"
9350 PRINT "them from the wolf,
who's hungry"
9355 PRINT "for a nice bit of mu
tton.***"
9360 PRINT "You've only a lim
ited time to"
9361 PRINT "ensure the sheep hav
e had enough"
9362 PRINT "to eat, and avoid
or kill the"
9363 PRINT "wolf. Of course you
must not run"
9364 PRINT "into the flock its
elf, or the"
9365 PRINT "sheep will be scatte
red and lost"
9366 GO SUB 9000: REM USR GRAPHI
CS
9367 PRINT (;TAB 7);"*****
*****"
9368 GO SUB 9200: REM CRIMMOND
9370 PRINT " Press any key to
continue"
9371 IF INKEY$(">") THEN GO TO 93
71
9372 IF INKEY$="" THEN GO TO 937
2
9373 CLS
9374 PRINT ""When you have
fed the sheep,"
9375 PRINT "take them back to th
e fold (you"
9376 PRINT "can get in only via
the door you"
9377 PRINT "came out of) to ge
t a new and"
9378 PRINT "larger flock to care
for."
9379 PRINT ""Kill the wolf
by running himdown with the
shepherd: butwatch out, becaus
e he's a trickycustomer!"
9387 PRINT "" press any key t
o continue"
9388 IF INKEY$(">") THEN GO TO 93
88
9389 IF INKEY$="" THEN GO TO 938
9
9390 CLS : PRINT (TAB 12);"CONTR0
LS"
9393 PRINT (;TAB 5);"Keyboard co
ntrols are:"

```

```

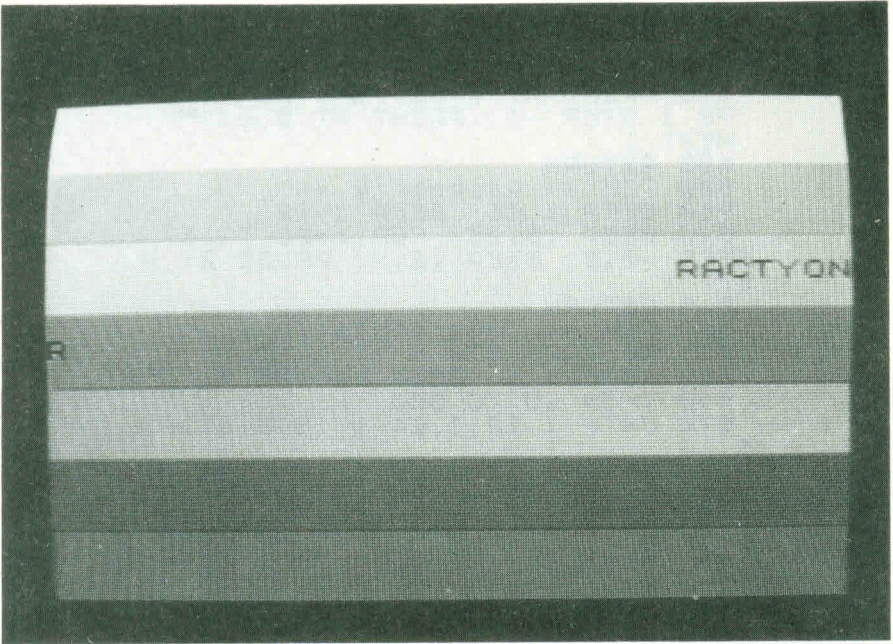
9400 PRINT " ";TAB 10;"Left:   ""
9405 PRINT " ";TAB 10;"Right:  ""W"
9410 PRINT " ";TAB 10;"Up:     ""P"
9415 PRINT " ";TAB 10;"Down:   ""L"
9420 PRINT " ";TAB 7;"Good Shephe
rding!"
9430 PRINT " ";TAB 6;"Press ""S""
to start"
9440 IF INKEY#="s" THEN GO TO 94
50
9441 IF INKEY#="S" THEN GO TO 94
50
9445 GO TO 9440
9450 RUN 2
9950 REM WORKING SUBROUTINES
9970 PAPER 7: INK 0: BRIGHT 0: B
ORDER 7
9975 STOP
9980 SAVE "SHEPHERD" LINE 9300
9982 PRINT "REWIND AND PLAY TAPE
TO VERIFY"
9986 VERIFY "SHEPHERD"
9987 PRINT "PROGRAM VERIFIED"
9989 STOP
9990 INPUT "Program name to save
": LINE A$
9993 SAVE "*"A$";1:A$ LINE 9300
9994 VERIFY "*"A$";1:A$: PRINT A$
;" VERIFIED"
9995 STOP
9997 INPUT "Program name to ERAS
E ": LINE A$
9998 ERASE "*"A$";1:A$
9999 STOP

```

*Author:* Rev. S. Springett



# Anagram



Here is that good old puzzle where you have to sort out the letters of a mixed-up word. All the words are plain English, so you should have nothing to worry about. Except the fact that they won't keep still...

```
100 DIM m$(30)
210 RANDOMIZE
295 GO TO 1000
300 REM ** Message **
310 PRINT AT 20,1; BRIGHT 1; FL
ASH 1; PAPER 5; INK 0;m$
320 GO SUB 400
330 IF INKEY$("<")="" THEN GO TO 33
0
335 LET k$=INKEY$; IF k$="" THE
N GO TO 335
337 IF k$>="A" AND k$<="Z" THEN
LET k$=CHR$(CODE (k$)-32)
340 PRINT AT 20,1;"
345 RETURN
350 REM ** Instruction **
360 PRINT AT 20,1; BRIGHT 1; PA
PER 6; INK 0;m$
395 RETURN
400 REM ** Pips **
410 FOR i=1 TO 2
420 BEEP 0.05,50: PAUSE 2
```

```

430 NEXT i
445 RETURN
450 REM ** Draw border **
460 PRINT AT 0,0;"┌": FOR i=1 TO 20: PRINT AT i,0;"|": NEXT i
465 PRINT AT 21,0;"└": FOR i=1 TO 30: PRINT AT 21,i;"|": NEXT i
470 PRINT AT 21,31;"└": FOR i=20 TO 1 STEP -1: PRINT AT i,31;"|": NEXT i
475 PRINT AT 0,31;"└": FOR i=30 TO 1 STEP -1: PRINT AT 0,i;"|": NEXT i
485 RETURN
500 REM ** Raspberry **
510 BEEP 1,16: BEEP 1,12
520 BEEP .5,25: FOR x=23 TO 17 STEP -.5: BEEP .1,x: PAUSE 2: NEXT x
545 RETURN
550 REM ** Congratulations **
555 RESTORE 570
560 READ n,p: BEEP n*.25,p: IF n>0 THEN GO TO 560
570 DATA 1,12,1,14,1,16,2,17,2,5,12
572 DATA 1,17,1,16,1,17,2,19,2,5,14
574 DATA 1,14,1,16,1,17,1,5,21,0,5,19
576 DATA 1,19,1,17,1,17,1,16,1,14,1,16,3,17
580 DATA 0,0
595 RETURN
900 REM
1000 REM ** Show instructions **
1001 REM
1040 BORDER 0: PAPER 7: INK 0: CLS
1045 PRINT AT 1,0:
1050 RESTORE 8000
1060 READ i$: IF i$<>"@" THEN PRINT i$: GO TO 1060
1100 LET m$="Press any key to continue...": GO SUB 300
1999 REM
2000 REM ** Generate anagram **
2001 REM
2040 RANDOMIZE
2050 LET nwords=50
2060 DIM U(nwords)
2070 LET wn=INT (RND*nwords)+1
2080 IF U(wn)=1 THEN GO TO 2070
2090 LET U(wn)=1
2100 RESTORE 8600
2110 FOR i=1 TO wn: READ w$: NEXT i
2120 FOR i=1 TO LEN w$
2130 LET ci=CODE w$(i)-10
2140 IF ci<65 THEN LET ci=ci+26
2150 LET w$(i)=CHR$(ci)
2160 NEXT i
2200 LET x$=w$: LET a$=""
2220 LET ch=INT (RND*LEN x$)+1
2230 LET a$=a$+x$(ch)
2240 LET x$=x$(TO ch-1)+ x$(ch+1 TO )

```

```

2250 IF x#>"" THEN GO TO 2220
2280 IF a#=# THEN GO TO 2200
2300 REM
3000 REM ** Display puzzle **
3001 REM
3050 BORDER 0: PAPER 0: CLS
3060 PRINT AT 0,0;
3070 FOR i=7 TO 1 STEP -1
3080 FOR j=1 TO 3
3090 PRINT PAPER i;";
3100 NEXT j
3110 NEXT i
3200 LET bl=1: LET bc=0: LET nl=
1: LET nc=LEN a#: LET ch=1
3200 PRINT AT bl,bc: PAPER 8: IN
K 0;a#
3250 PRINT AT bl,bc: PAPER 8;" "
3260 PRINT AT nl,nc: PAPER 8: IN
K 0;a#(ch)
3270 LET nc=nc+1: IF nc>31 THEN
LET nc=0: LET nl=nl+3
3280 IF nl>20 THEN LET nl=1
3290 LET bc=bc+1: IF bc>31 THEN
LET bc=0: LET bl=bl+3
3300 IF bl>20 THEN LET bl=1
3310 LET ch=ch+1: IF ch>LEN a# T
HEN LET ch=1
3320 IF INKEY#="" THEN GO TO 325
0
3400 DIM b$(32)
3420 PRINT PAPER 8:AT bl,0;b$:AT
nl,0;b#
3500 REM
4000 REM ** Get answer **
4001 REM
4050 BEEP .25,12: BEEP .5,17
4070 LET m$="OK - what's the wor
d then?": GO SUB 350
4080 INPUT ">>": LINE r#
4085 LET m$=""
GO SUB 350
4090 LET ch=0
4100 FOR i=1 TO LEN r#
4110 IF r$(i)="" THEN GO TO 415
0
4120 LET ch=ch+1: LET r$(ch)=r$(
i)
4130 LET xc=CODE r$(ch)
4140 IF xc>90 THEN LET r$(ch)=CH
R$(xc-32)
4150 NEXT i
4170 LET r#=r$( TO ch)
4400 REM
4500 REM
4501 REM
4550 IF w$<>r# THEN LET m$=" WRO
NG - you can't catch it !": GO S
UB 350: GO SUB 500: PAUSE 0
4570 IF w#=r# THEN LET m$="WELL
CAUGHT - you're right !": GO SUB
350: GO SUB 550: PAUSE 0
4600 LET m$="Will you try again
? (Y/N)": GO SUB 300
4650 IF k$<>"y" THEN BORDER 7: P
APER 7: INK 0: CLS : GO TO 9999
4670 IF w#=r# THEN GO TO 2000

```



```

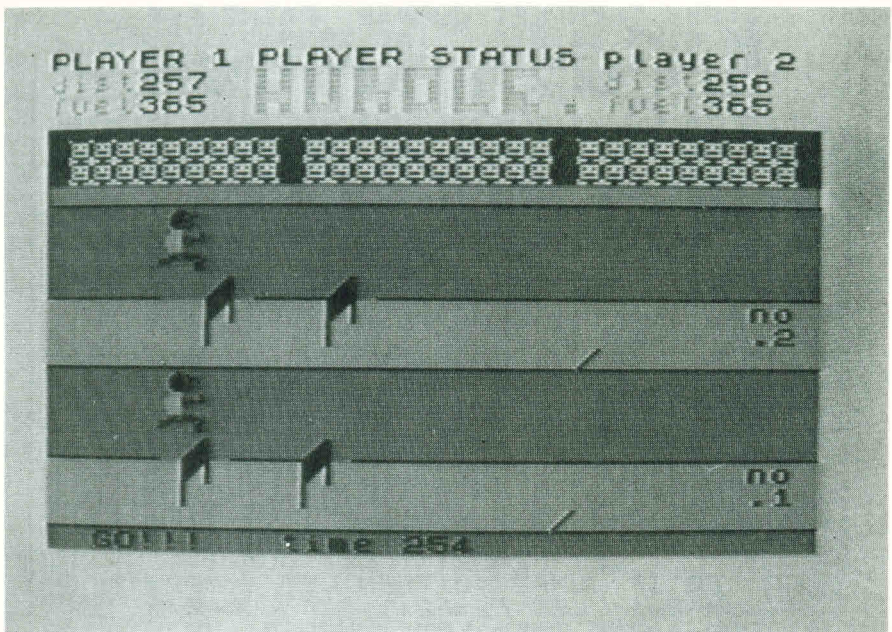
4680 IF #$(>r$ THEN GO TO 3000
7999 REM
8000 REM * Instruction Data *
8001 REM
8010 DATA "          ANAGRAMS",
" " " "
8020 DATA "Here is that good old
puzzle"
8030 DATA "Where you have to sort
out"
8040 DATA "the letters of a mixed
up word."
8050 DATA "All the words are plain
English."
8060 DATA "so you should have no
thing to"
8070 DATA "worry about."
8080 DATA "Except the fact that
they "
8090 DATA "won't keep still..."
8190 DATA "©"
8500 DATA "OXDOB", "NBSFO", "UYMKU",
"ZKOD", "UYXOI",
8610 DATA "UYXDA", "KBQEO", "USUSD",
"CDENI", "QBKCC"
8620 DATA "UKGIOB", "BOBKBN", "MOX",
"DBO", "ROKUDR", "YLDKXS"
8630 DATA "MYUYEB", "ZYUSMO", "MYU",
"UYX", "KDDKMU", "UECHVO"
8640 DATA "USMOXMO", "ZBSFKDO", "C",
"DKDSYX", "FORSHVO", "ZEBZYCO"
8650 DATA "PSDXOCC", "OWYDSYX", "B",
"OFBCC", "ZKDSOXD", "LKBOKSX"
8660 DATA "SXDOGBOD", "BOUKDSYX",
"KDDSDENO", "MYXDBKBI", "ZYUSDSDMO"
8670 DATA "OWZUYIOB", "PBOAEOXD",
"LECSXOCC", "NYMEWOXD", "MROUSHKU"
8680 DATA "NSBOMDSYX", "OWOBQOXMI",
"COXDSWOXD", "SWWONSKDO", "RKZZS",
"XOCC"
8690 DATA "FOQODKLVQ", "OXOBQODSM",
"SWZYBDKXD", "DELODKXMO", "MRKBK",
"MOQB"
8990 GO TO 9999
9000 INPUT "File to save ? "; LI
NE f$
9010 SAVE "m";1;f$
9020 GO TO 9999
9100 INPUT "File to erase ? "; LI
NE f$
9110 ERASE "m";1;f$
9120 GO TO 9999

```

*Author:* P. Boocock



# Hurdles



A game which allows you to either play against the computer or against another player. You have to jump a number of hurdles but you only have a limited amount of energy – use this up before the race ends, and you collapse. Typing in “comp” will give you a demonstration game.

```

5 POKE 23658,0: GO TO 1000
8 REM      HURDLES@
9 REM      By Mr.P.Fox
10 LET TIME=TIME+1: PRINT AT 2
1,15;TIME;" ": IF F1>650 THEN PR
INT AT 19,10;N$;" HAS COLLAPSED"
: GO TO 50+(1350 AND (F2>600 OR
T2(>0))
20 LET a=((IN 64510 AND n$(<>"co
mp"))+((254-(H1>20 AND H2>20) AND
N$="comp"))): IF t1=0 AND a<>255
AND a<>191 THEN GO SUB 100: LET
F1=F1+1: IF a=253 AND F1<500 TH
EN GO SUB 100: LET F1=F1+2+(JUMP
(>0)
30 LET a=((IN 63486 AND n$(<>"co
mp"))+(255-((h1<7 AND h1>3) OR (h
2<7 AND h2>3)) AND n$="comp")): I
F t1=0 AND a<>255 AND a<>191 AND
ST>1 AND JUMP=0 THEN PRINT PAPE
R 8: INK 0;AT 14,5)"#": INK 2;"#

```

```

"; INK 6; AT 15,5; " "; INK 2; " ";
AT 16,5; " "; AT 17,5; INK 7; " ";
; AT 18,5; " "; LET F1=F1+1; LET
JUMP=4
40 IF JUMP<>0 THEN LET JUMP=JU
MP-1; LET F1=F1+1; IF JUMP=0 OR
a=255 THEN LET JUMP=0; PRINT PAP
ER 8; AT 14,5; " "; AT 15,5; " ";
AT 16,5; INK 0; " "; INK 2; " "; AT
17,5; INK 6; " "; INK 2; " "; AT 1
8,5; " "
50 IF F2>650 THEN PRINT AT 9,1
0; M#; " HAS COLLAPSED"; GO TO 90+
(1310 AND (F1>500 OR T1<>0))
60 LET a=((IN 57342 AND m#<>"co
mp")+(254-(h3>20 AND h4>20) AND
m#="comp")); IF t2=0 AND a<>255 A
ND a<>191 THEN LET F2=F2+1; GO 3
UB 200; IF a=253 AND F2<500 THEN
GO SUB 200; LET F2=F2+2+(JUMP2<
>0)
70 LET a=((IN 61438 AND m#<>"co
mp")+(255-((h3<7 AND h3>3) OR (h
4<7 AND h4>3)) AND m#="comp")); I
F t2=0 AND a<>255 AND a<>191 AND
ST2>1 AND JUMP2=0 THEN PRINT PA
PER 8; AT 7,5; " "; INK 2; " "; INK
6; AT 8,5; " "; INK 2; " "; AT 9,5;
" "; AT 10,5; INK 7; " "; AT 11,5
; " "; LET F2=F2+1; LET JUMP2=4
80 IF JUMP2<>0 THEN LET JUMP2=
JUMP2-1; LET F2=F2+1; IF JUMP2=0
OR a=255 THEN LET JUMP2=0; PRIN
T PAPER 8; AT 7,5; " "; AT 8,5; "
"; AT 9,5; " "; INK 2; " "; INK 6;
AT 10,5; " "; INK 2; " "; AT 11,5;
" "
90 PRINT AT 2,4; FLASH (F1>500
); F1; " "; AT 2,27; FLASH (F2>500)
; F2; " "; IF INKEY#<>"s" THEN GO
TO 10
95 GO TO 90+(5 AND INKEY#<>"d"
)+(1305 AND INKEY#="a")
99 REM TRACK:MAN1
100 LET PA=((H2=5 OR H2=6) OR
(H1=5 OR H1=6)) AND JUMP=0; IF
PA=1 THEN GO TO 170
110 IF H1>0 AND H1<26 THEN PRIN
T AT 17,H1; "▲ _"; AT 18,H1; "▼ ";
AT 19,H1; " "
120 IF H2>0 AND H2<26 THEN PRIN
T AT 17,H2; "▲ _"; AT 18,H2; "▼ ";
AT 19,H2; " "
130 IF H1=0 THEN PRINT AT 17,H1
; " _ _"; AT 18,H1; " _ "; AT 19,H1; "
"; IF M1<21 THEN LET H1=H(M1);
LET M1=M1+1
140 IF H2=0 THEN PRINT AT 17,H2
; " _ _"; AT 18,H2; " _ "; AT 19,H2; "
"; IF M1<21 THEN LET H2=H(M1);
LET M1=M1+1
150 LET H1=H1-1; LET D1=D1+1; L
ET H2=H2-1; PRINT AT 1,4; D1; IF
M1>20 AND T1=0 THEN LET END1=END
1-1; IF END1<26 THEN PRINT AT 18
,END1; PAPER 8; " / "; AT 19,END1-1
; " / "; IF END1=4 THEN PRINT AT 1

```



```

8,10;N$;" FINISHED": LET T1=TIME
: IF T2<>0 THEN GO TO 1400
160 PRINT AT 20,C1: OVER 1: (" /"
AND C1>0): OVER 0: " _": LET C1=
C1-1+(25 AND C1=0)
170 LET ST=(ST+1 AND ST<3)+(7 A
ND JUMP<>0): PRINT AT 17,5: INK
6: PAPER 8: (" " AND ST<4): INK 2
: (" " AND ST<2): (" " AND (ST>2 A
ND ST<4)): AT 18,5: (" " AND ST=0
): (" " AND ST=1): (" " AND ST=2
): (" " AND ST=3)
180 RETURN
199 REM THE TRACK:MAN2
200 LET PA=((H3=5 OR H3=6) OR
(H4=5 OR H4=6)) AND JUMP2=0: IF
PA=1 THEN GO TO 270
210 IF H3>0 AND H3<26 THEN PRIN
T AT 10,H3: " / _": AT 11,H3: " / ";
AT 12,H3: " "
220 IF H4>0 AND H4<26 THEN PRIN
T AT 10,H4: " / _": AT 11,H4: " / ";
AT 12,H4: " "
230 IF H3=0 THEN PRINT AT 10,H3
: " _": AT 11,H3: " "; AT 12,H3: "
": IF M2<21 THEN LET H3=H(M2):
LET M2=M2+1
240 IF H4=0 THEN PRINT AT 10,H4
: " _": AT 11,H4: " "; AT 12,H4: "
": IF M2<21 THEN LET H4=H(M2):
LET M2=M2+1
250 LET D2=D2+1: PRINT AT 1,27:
D2: LET H3=H3-1: LET H4=H4-1: IF
M2>20 AND T2=0 THEN LET END2=EN
D2-1: IF END2<26 THEN PRINT AT 1
1,END2: PAPER 8: " / _": AT 12,END2-
1: " / _": IF END2=4 THEN PRINT AT
11,10;M$;" FINISHED": LET T2=TIM
E: IF T1<>0 THEN GO TO 1400
260 PRINT AT 13,C2: OVER 1: (" /"
AND C2>0): OVER 0: " _": LET C2=
C2-1+(25 AND C2=0)
270 LET ST2=(ST2+1 AND ST2<3)+(
7 AND JUMP2<>0): PRINT AT 10,5:
INK 6: PAPER 8: (" " AND ST2<4):
INK 2: (" " AND ST2<2): (" " AND (
ST2>2 AND ST2<4)): AT 11,5: (" "
AND ST2=0): (" " AND ST2=1): (" "
" AND ST2=2): (" " AND ST2=3)
280 RETURN
999 REM HURDLE VARIABLES
1000 LET h$="Harry": LET h1=400:
DIM H(20): FOR C=1 TO 20: READ
H(C): NEXT C: FOR C=USR "A" TO U
SR "0"+7: READ A: POKE C,A: NEXT
C
1010 LET T2=0: LET T1=0: LET F2=
0: LET F1=0: LET C1=25: LET C2=2
5: LET D1=2: LET D2=2
1020 LET END1=56: LET END2=56: L
ET N$="": LET M$="": LET ST2=1:
LET JUMP2=0: LET ST=1: LET JUMP=
0: LET TIME=0: LET H1=25: LET H2
=35: LET H3=25: LET H4=35: LET M
1=1: LET M2=1
1030 BEEP .05,20: BEEP .1,35: PA
PER 7: INK 0: BORDER 7: CLS: PR

```

INT : PRINT " WELCOME TO HUR  
DLING

By Mr.P.Fo  
X This program  
provides a hurdling simulati  
on game for your ZX SPECTRUM  
micro.It is entirely written  
in BASIC.

1040 PRINT AT 20,0;" press Y f  
or instructions or any o  
ther to start "

1050 LET a\$=INKEY\$; IF a\$="" THE  
N GO TO 1050

1060 IF a\$="y" THEN GO TO 1300

1070 BEEP .05,20; BEEP .1,35; CL  
S : PRINT AT 7,0;"You can jump o  
nly when stride";AT 0,0;h\$;" hol  
ds the track record";AT 1,0;"wit  
h a time of ";hi;AT 3,0;"For com  
puter controlled runner enter  
'comp' for runners name Enteri  
ng both as 'comp' will give a  
demo game";AT 8,0;"PLAYER 1 ent  
er your name:"; INPUT "type name  
then press ENTER "; LINE N

\$; PRINT AT 8,0;"PLAYER 1 is cal  
led ";N\$;" "

1080 BEEP .05,20; BEEP .1,35; PR  
INT AT 10,0;"PLAYER 2 enter your  
name:"; INPUT "type name then p  
ress ENTER "; LINE M\$; BEEP  
.05,20; BEEP .1,35; PRINT AT 10  
,0;"PLAYER 2 is called ";M\$;" "

1090 PRINT AT 12,10;"DON'T FORGE  
T": PRINT "for PLAYER1 1-5 JU  
MP 0-T NO  
VE(W FAST) for PLAYER2 6-0 JU  
MP P-Y NO  
VE(0 FAST)"; PRINT AT 19,0;" to  
ABORT press 's' then 'a' ";AT  
21,5;"PRESS KEY TO START": PAUS  
E 0

1099 REM THE SCREEN

1100 BEEP .05,20; BEEP .1,35; PA  
PER 4; CLS : PAPER 8; PRINT PAPE  
R 8;AT 11,0;"

no  
.2

1110 PRINT PAPER 6;AT 18,0;"

no  
.1

1120 PRINT AT 10,0;"

" ;AT 17,0;"

1150 PRINT AT 9,5;" "; INK 2;" ";  
; INK 6;AT 10,5;" "; INK 2;" ";A  
T 11,5; INK 2;" "

1160 PRINT AT 16,5;" "; INK 2;" ";  
; INK 6;AT 17,5;" "; INK 2;" ";  
AT 18,5;" "

1170 PRINT AT 3,0; PAPER 7; INK  
2;"

8888888888 8888888888 88888888  
88 8888888888 8888888888 88888888  
88 "



```

1180 PRINT AT 8,0; PAPER 3;"_____
1190 PRINT AT 0,0; PAPER 7;"PLAY
ER 1 PLAYER STATUS player 2 "; I
NK 5;"dist      dist
t      fuel      HURDLE . fuel
l
1200 POKE 23658,0: PRINT AT 21,0
;" ON YOUR MARKS "; FOR c=1 TO
80: NEXT c: PRINT AT 21,0;" GE
T SET "; FOR C=1 TO
80: NEXT C: PRINT AT 21,0; FLASH
1;" GO!!! "; FLASH 0;"
1210 BEEP .005,-10: BEEP .005,-5
: BEEP .02,5: BEEP .4,10: PRINT
AT 21,10;"time "; GO TO 10
1299 REM INSTRUCTIONS
1300 BEEP .05,20: BEEP .1,35: CL
S : PRINT AT 1,0;" INSTRUCTION
S TO HURDLING"
1310 PRINT : PRINT " A 4
00m hurdle game for two. This ga
me requires skill to win. The run
ners are illustrated on the left
of the screen and are stationa
ry other than leg & arm movement
. From the right gradually mo
ve hurdles which you jump in orde
r to continue the race"
1320 PRINT " An added problem
is fuel you have only a set amou
nt of energy, use this before the
race ends and you collapse": P
RINT : PRINT " PRESS KEY TO C
ONTINUE
1330 PAUSE 0: BEEP .05,20: BEEP
.1,35: CLS : PRINT AT 0,0;"FUEL
usage"
JUMP -1pt SLOW
SPEED -1pt FAST
SPEED -3pts"
1340 PRINT "KEYS
s-pause play d-start
after pause for PLAYER1 1-5 J
UMP 0-T M
OVE (W FAST) for PLAYER2 6-0 J
UMP P-Y M
OVE (O FAST)"
1350 PRINT " You are provide
d with 500 pts of fuel use it w
isely) Jumping require
s the JUMP and MOVE keys. Keep J
ump key down for duration of
jump Slow speed move
s you one space per move and f
ast two (if fuel used is below 5
00pts) GOOD HURDLI
NG PRESS KEY TO CONT
INUE "
1360 PAUSE 0: BEEP .05,20: BEEP
.1,35: CLS : GO TO 1070
1399 REM THE END
1400 FOR c=1 TO 200: NEXT c: BEE
P .1,20: BEEP .05,15: BEEP .1,25
: BEEP .2,20: BEEP .3,15: BEEP .

```

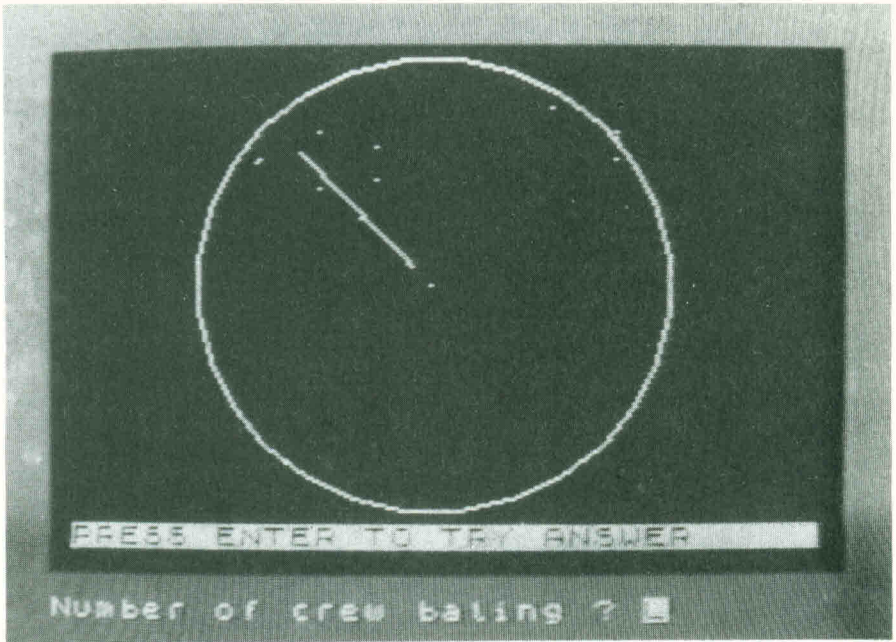
```

2,10: BEEP .4,0: BEEP .05,5: BEE
P .05,10: BEEP .05,10: BEEP .2,5
: BORDER 7: PAPER 7: CLS : IF f2
>600 THEN PRINT AT 15,0;m$;(" yo
u wasted your fuel" AND d2<350);
(" almost there " AND d2>349)
1410 IF F1>600 THEN PRINT AT 10,
0;n$;(" you wasted your fuel" AN
D d1<350);(" almost there " AND
d1>349)
1420 IF t1<>0 THEN PRINT AT 10,0
;n$;(" you completed the track ");
(("and beat "+m$) AND t1<t2);" i
n time ";t1: IF t1<hi AND (t1<t2
OR t2=0) THEN LET h#=n$: LET hi
=t1: PRINT AT 12,0;"You have tod
ays best time"
1430 IF t2<>0 THEN PRINT AT 15,0
;m$;(" you completed the track ");
(("and beat "+n$) AND t2<t1);" i
n time ";t2: IF t2<hi AND (t2<t1
OR t1=0) THEN LET h#=m$: LET hi
=t2: PRINT AT 17,0;" You have
todays best time"
1440 PRINT AT 21,0;"PLAY AGAIN P
RESS Y"
1450 IF INKEY#="" THEN GO TO 145
0
1460 IF INKEY#="y" OR INKEY#="Y"
THEN GO TO 1010
1470 STOP
2000 REM DATA
2010 DATA 30,30,40,35,25,25,25,2
5,45,60,40,25,30,30,50,55,25,25,
25,25
2030 DATA 1,2,4,8,16,32,64,128,1
28,128,128,128,128,128,128,128,0
,0,192,224,112,126,28,4
2040 DATA 1,3,7,15,31,63,127,255
,255,254,252,248,240,224,192,128
2050 DATA 0,3,7,15,15,15,15,7,0,
0,224,184,240,224,240,224
2060 DATA 15,15,63,63,63,63,31,3
1,0,2,195,255,240,64,0,0
2070 DATA 16,16,63,124,96,224,19
2,224,240,252,251,14,14,15,0,0
2080 DATA 16,16,15,15,15,12,12,1
5,128,192,224,240,112,48,48,56
2090 DATA 4,28,255,240,128,0,0,0
,126,129,165,129,169,129,126,24

```

Author: P. Fox

# Boats



A boat is sinking off the Scottish coast. The Captain will send details of the time of sinking, number of bucketsful to empty the boat and the time to empty each bucket. You have to find out how many are needed for bailing out to stop the boat sinking.

```
1 REM *****
2 REM
3 REM      BOATS
4 REM
5 REM *****
6 REM
10 REM © Paul Boocock 1984
100 DIM m$(30)
210 RANDOMIZE
295 GO TO 1000
300 REM ** Message **
310 PRINT AT 20,1; BRIGHT 1; FL
ASH 1; PAPER 5; INK 0;m$
320 GO SUB 400
330 IF INKEY#(">") THEN GO TO 33
0
335 LET k#=INKEY#: IF k#="" THE
N GO TO 335
337 IF k#>="A" AND k#<="Z" THEN
LET k#=CHR# (CODE (k#)-32)
340 PRINT AT 20,1;"
```

```

345 RETURN
350 REM ** Instruction **
360 PRINT AT 20,1: BRIGHT 1: PA
PER 6: INK 0;m$
395 RETURN
400 REM ** Pips **
410 FOR i=1 TO 2
420 BEEP 0.05,50: PAUSE 2
430 NEXT i
445 RETURN
450 REM ** Draw border **
460 PRINT AT 0,0;"┌": FOR i=1 T
O 20: PRINT AT i,0;"┌": NEXT i
465 PRINT AT 21,0;"└": FOR i=1
TO 30: PRINT AT 21,i;"└": NEXT i
470 PRINT AT 21,31;"└": FOR i=2
0 TO 1 STEP -1: PRINT AT i,31;"└
": NEXT i
475 PRINT AT 0,31;"┐": FOR i=30
TO 1 STEP -1: PRINT AT 0,i;"┐":
NEXT i
495 RETURN
500 REM ** Raspberry **
510 BEEP 1,16: BEEP 1,12
520 BEEP .5,25: FOR x=23 TO 17
STEP -.5: BEEP .1,x: PAUSE 2: N
EXT x
545 RETURN
550 REM ** Congratulations **
555 RESTORE 570
560 READ n,p: BEEP n*0.25,p: IF
n>0 THEN GO TO 560
570 DATA 1,12,1,14,1,16,2,17,2,
5,12
572 DATA 1,17,1,16,1,17,2,19,2,
5,14
574 DATA 1,14,1,16,1,17,1.5,21,
0.5,19
576 DATA 1,19,1,17,1,17,1,16,1,
14,1,16,3,17
580 DATA 0,0
595 RETURN
700 REM * SOS in morse code *
710 LET dot=.03: LET dash=.1: L
ET gap=.2: LET tone=15
720 FOR i=1 TO 3: BEEP dot,tone
: PAUSE gap: NEXT i
730 FOR i=1 TO 3: BEEP dash,tone
: PAUSE gap: NEXT i
740 FOR i=1 TO 3: BEEP dot,tone
: PAUSE gap: NEXT i
750 RETURN
799 REM
800 REM ** Funeral march **
801 REM
810 RESTORE 830
820 READ n,p: BEEP n*0.4,p: IF
n>0 THEN GO TO 860
830 DATA 2,-12,2,-12,1,-12,3,-1
2
840 DATA 2,-9,1,-10,2,-10,1,-12
,2,-12,1,-12,4,-12
870 DATA 0,0
895 RETURN
999 REM
1000 REM ** Show instructions **
1001 REM

```



```

1050 PAPER 7: INK 0: CLS : BORDE
R 1
1060 RESTORE 8000
1070 PRINT AT 4,0:
1080 READ i$: IF i$="@" THEN GO
TO 1200
1100 FOR i=1 TO LEN i$: PRINT i$
(1): BEEP .01,0: NEXT i
1110 GO SUB 700
1120 PRINT
1150 GO TO 1080
1200 PAUSE 0
1999 REM
2000 REM ** Generate puzzle **
2001 REM
2050 LET sink=10+INT (RND*35)
2060 LET buckets=1000+INT (RND*4
000)
2065 LET btime=10+INT (RND*30)
2070 LET crew=(buckets * btime)/
(sink * 60)
2080 LET crew=INT (crew+.999)
2999 REM
3000 REM ** Display puzzle **
3001 REM
3040 DIM i$(4,30)
3050 LET i$(1)="TIME TO SINKING:
"+STR$ SINK+" MINS"
3060 LET i$(2)="BUCKETS TO EMPTY
BOAT: " + STR$ buckets
3070 LET i$(3)="TIME TO EMPTY BU
CKET: "+STR$ btime+" SECS"
3080 LET i$(4)="PRESS ENTER TO T
RY ANSWER"
3085 LET spos=1
3090 LET cx=125: LET cy=95: LET
r=75: LET r1=60: LET step=.2
3100 PAPER 0: INK 7: CLS
3120 LET lx=cx-r1: LET ly=cy-r1
3130 LET r2=2*r1
3140 FOR i=1 TO 100
3150 LET px=lx+RND*r2
3160 LET py=ly+RND*r2
3180 PLOT INK 0:PX,PY
3190 NEXT i
3195 CIRCLE INK 7:cx,cy,r
3200 LET angle=0.6: LET old=0
3230 LET angle=angle+step
3240 LET px=r1*COS angle: LET py
=r1*SIN angle
3250 PLOT cx,cy: DRAW INK 7: OVE
R 1:px,py
3260 LET old=old+step
3270 LET px=r1*COS old: LET py=r
1*SIN old
3280 PLOT cx,cy: DRAW INK 0: OVE
R 1:px,py: PLOT cx,cy: DRAW INK
0: OVER 1:px,py
3310 PRINT AT 20,1: PAPER 5: INK
0: BRIGHT 1:i$(spos)
3320 LET spos=spos+1
3325 IF spos>4 THEN LET spos=1
3330 GO SUB 700
3340 IF INKEY#>" " THEN GO TO 400
0
3345 LET px=r1*COS angle: LET py
=r1*SIN angle

```

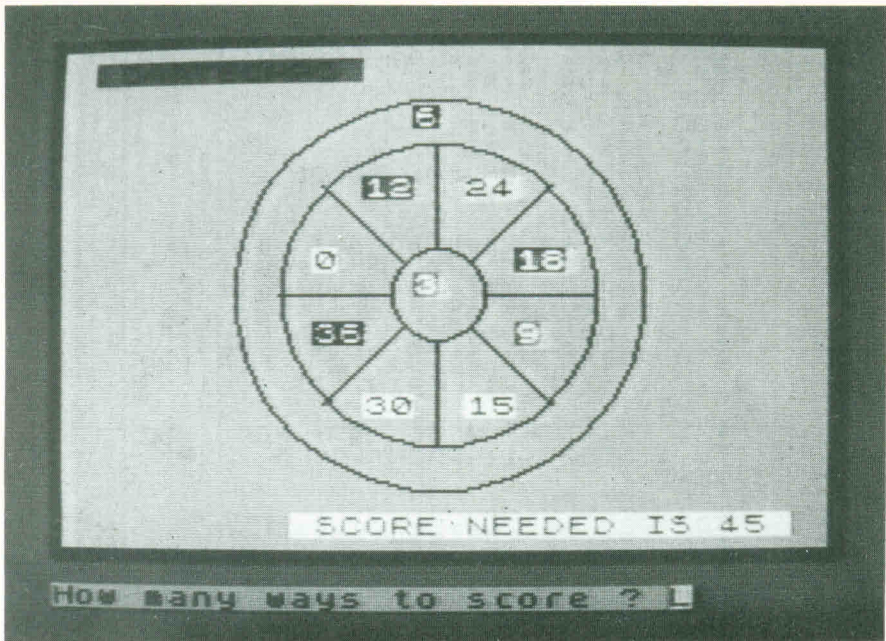
```

3347 PLOT cx,cy: DRAW INK 7: OVE
R 1:px,py
3350 GO TO 3230
3999 REM
4000 REM ** Get answer **
4001 REM
4040 IF INKEY#>" " THEN GO TO 404
0
4050 INPUT "Number of crew balin
g ? "; LINE r$
4060 LET answer=VAL r$
4070 LET answer=INT (answer+0.99
9)
4080 IF answer=crew THEN LET ok=
1
4090 IF answer<>crew THEN LET ok
=0
4499 REM
4500 REM ** Check answer **
4501 REM
4550 IF ok=0 THEN LET m$="TOO LA
TE...LOST WITH ALL HANDS": GO SU
B 350: GO SUB 800: PAUSE 0
4570 IF ok=1 THEN LET m$="OUR HE
RO SAVES THE SHIP !": GO SUB 350
: GO SUB 550: PAUSE 0
4580 LET m$="ANOTHER EMERGENCY
? (Y/N)": GO SUB 300
4590 IF k$<>"y" THEN PAPER 7: IN
K 0: CLS : GO TO 9999
4600 GO TO 2000
7999 REM
8000 REM * Instruction data *
8001 REM
8010 DATA "MAYDAY URGENT"
8020 DATA "BOAT SINKING OFF SCOT
TISH COAST..."
8030 DATA "CAPTAIN WILL SEND DET
AILS"
8040 DATA "OF TIME TO SINKING,"
8050 DATA "NUMBER OF BUCKETFULS
TO EMPTY"
8060 DATA "BOAT, TIME TO EMPTY E
ACH BUCKET..."
8070 DATA "PLEASE FIND HOW MANY
CREW"
8080 DATA "NEEDED BALING OUT TO
STOP"
8090 DATA "BOAT SINKING..."
8100 DATA "PRESS KEY TO SAVE SHI
P..."
8190 DATA "@"
8990 GO TO 9999
9000 INPUT "File to save ? "; LI
NE f$
9010 SAVE "*"m";1)f$
9020 GO TO 9999
9100 INPUT "File to erase ? "; L
INE f$
9110 ERASE "*"m";1)f$
9120 GO TO 9999
9200 PAPER 7: INK 0: CLS

```

Author: B. Waring

# Dartboard



This puzzle has a very peculiar dartboard in it. Each area of the board has a different score. You have to imagine throwing three darts at the board – each one must land on a different area. There is a certain total which you need to score with the three darts. You have to find how many different ways this total can be reached. No combination of areas may be used more than once, even in a different order.

```

1 REM *****
2 REM
3 REM      DARTBOARD
4 REM
5 REM *****
6 REM
100 DIM m$(30)
210 RANDOMIZE
295 GO TO 1000
300 REM ** Message **
310 PRINT AT 20,1: BRIGHT 1: FL
ASH 1: PAPER 5: INK 0;m$
320 GO SUB 400
330 IF INKEY#<>" " THEN GO TO 33
0

```



```

335 LET K#=INKEY#: IF K#="" THE
N GO TO 335
337 IF K#>="A" AND K#<="Z" THEN
LET K#=CHR# (CODE (K#)-32)
340 PRINT AT 20,1;"
345 RETURN
350 REM ** Instruction **
360 PRINT AT 20,1; BRIGHT 1; PA
PER 5; INK 0;m$
395 RETURN
400 REM ** Pips **
410 FOR i=1 TO 2
420 BEEP 0.05,50: PAUSE 2
430 NEXT i
440 RETURN
450 REM ** Draw border **
460 PRINT AT 0,0;"█": FOR i=1 T
O 20: PRINT AT i,0;"█": NEXT i
465 PRINT AT 21,0;"█": FOR i=1
TO 30: PRINT AT 21,i;"█": NEXT i
470 PRINT AT 21,31;"█": FOR i=2
0 TO 1 STEP -1: PRINT AT i,31;"█
": NEXT i
475 PRINT AT 0,31;"█": FOR i=30
TO 1 STEP -1: PRINT AT 0,i;"█":
NEXT i
495 RETURN
500 REM ** Raspberry **
510 BEEP 1,16: BEEP 1,12
520 BEEP .5,25: FOR x=23 TO 17
STEP -0.5: BEEP .1,x: PAUSE 2: N
EXT x
545 RETURN
550 REM ** Congratulations **
555 RESTORE 570
560 READ n,p: BEEP n*0.25,p: IF
n>0 THEN GO TO 560
570 DATA 1,12,1,14,1,16,2,17,2.
5,10
572 DATA 1,17,1,16,1,17,2,19,2.
5,14
574 DATA 1,14,1,16,1,17,1.5,21,
0.5,19
576 DATA 1,19,1,17,1,17,1,16,1,
14,1,16,3,17
580 DATA 0,0
590 RETURN
6000 REM
1000 REM ** Show instructions
1001 REM
1050 RESTORE 8000
1060 PRINT AT 2,0;
1070 READ i$
1080 IF i$(1)="@" THEN GO TO 120
0
1100 LET p=1+INT (RND*LEN i$)
1110 PRINT i$( TO p)
1120 FOR i=1 TO 3: BEEP .1,-30:
PAUSE 10: NEXT i
1130 PRINT i$(p+1 TO )
1140 GO TO 1070
1200 LET m$="Press any key to co
ntinue...": GO SUB 600
1999 REM
2000 REM ** Generate puzzle **
2001 REM

```



```

2050 RANDOMIZE
2070 LET n=10
2080 DIM s(n)
2090 LET base=2+INT (RND*8)
2100 LET s(1)=0
2110 RESTORE 8200
2120 FOR i=2 TO n
2130 READ m: LET s(i)=base*m
2140 NEXT i
2150 LET target=15+INT (RND*11)
2160 LET target=target*base
2200 LET ways=0
2220 FOR a=1 TO n
2230 FOR b=a+1 TO n
2240 FOR c=b+1 TO n
2250 LET tot=s(a)+s(b)+s(c)
2260 IF tot=target THEN LET ways
=ways+1
2300 NEXT c
2310 NEXT b
2320 NEXT a
2999 REM
3000 REM ** Display puzzle **
3001 REM
3050 BORDER 2: PAPER 7: INK 0: C
LS : GO SUB 450
3070 PRINT AT 1,2: PAPER 2: INK
8:" DARTBOARD "
3080 LET cl=10: LET cc=14: LET c
x=127: LET cy=88
3090 LET r1=15: LET r2=50: LET r
3=65
3100 CIRCLE cx,cy,r1
3120 FOR a=0 TO 2*PI STEP PI/4
3130 LET px1=cx+r1*SIN a
3140 LET py1=cy+r1*COS a
3150 PLOT px1,py1
3170 LET px2=(r2-r1)*SIN a
3180 LET py2=(r2-r1)*COS a
3190 DRAW px2,py2
3195 NEXT a
3200 CIRCLE cx,cy,r2
3210 CIRCLE cx,cy,r3
3290 RESTORE 8400
3300 FOR i=1 TO n: READ l,c: PRI
NT AT l,c: PAPER INT (RND*8): IN
K 9: BRIGHT 1:s(i): NEXT i
3400 PRINT AT 20,10: PAPER 2: IN
K 9: BRIGHT 1: FLASH 1:" SCORE N
EEDED IS ":target;" "
3999 REM
4000 REM ** Get answer **
4001 REM
4050 INPUT PAPER 6: INK 0:"How m
any ways to score ? ": LINE r#
4060 LET answer=VAL r#
4070 LET ok=0
4080 IF answer=ways THEN LET ok=
1
4499 REM
4500 REM ** Check answer **
4501 REM
4550 IF ok=0 THEN LET m#="You've
a very bad aim !": GO SUB 350:
GO SUB 500: PAUSE 0
4570 IF ok=1 THEN LET m#="One hu
ndred and EIGHTY - yes!": GO SUB

```

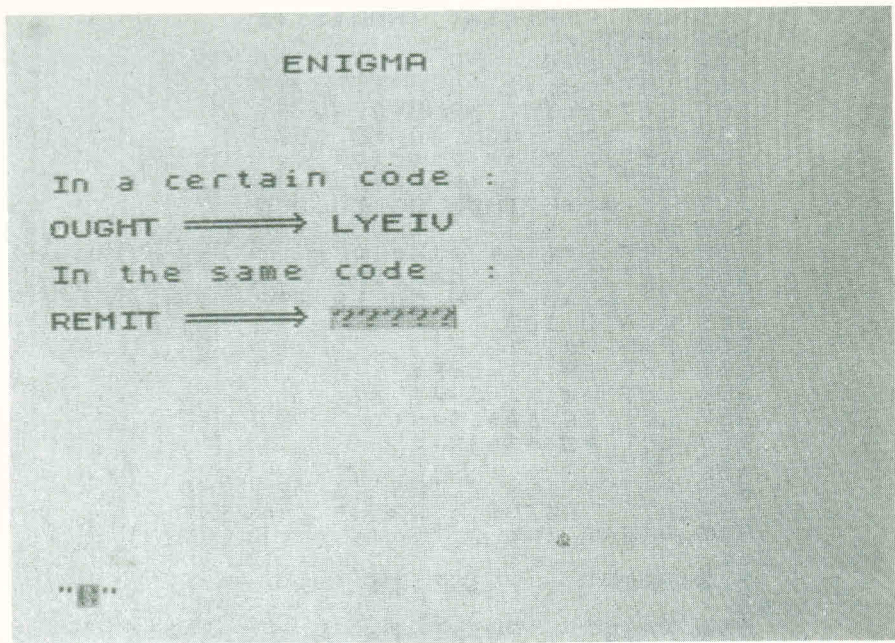
```

350: GO SUB 550: PAUSE 0
4580 LET m$="Another three darts
? (Y/N)": GO SUB 300
4590 IF k$<>"y" THEN PAPER 7: IN
K 0: CLS : GO TO 9999
4600 IF ok=0 THEN GO TO 4000
4610 IF ok=1 THEN GO TO 2000
7999 REM
8000 REM ** Instruction data **
8001 REM
8010 DATA "          DARTS"," "
8020 DATA "This puzzle has a ver
y peculiar"
8025 DATA "dartboard in it. Eac
h area of "
8030 DATA "the board has a diffe
rent score,"
8040 DATA "You have to imagine t
hrowing"
8050 DATA "three darts at the bo
ard - each"
8060 DATA "one must land in a di
fferent "
8070 DATA "area. There is a cer
tain total"
8080 DATA "which you need to sco
re with the"
8090 DATA "three darts. You hav
e to find"
8100 DATA "how many different wa
ys this "
8110 DATA "total can be reached.
"
8120 DATA "No combination of are
as may be"
8130 DATA "used more than once,
even in a "
8140 DATA "different order.," " "
8150 DATA "Take aim carefully..."
8160 DATA "@ "
8200 DATA 1,2,3,4,5,6,8,10,12
8400 REM ** Data for score posit
ions
8410 DATA 9,11,10,15
8420 DATA 3,15,12,19
8430 DATA 6,13,15,17
8440 DATA 9,19,6,17
8450 DATA 15,13,12,11
8990 GO TO 9999
9000 INPUT "File to save ? "; LI
NE f$
9010 SAVE "m";1;f$
9020 GO TO 9999
9100 INPUT "File to erase ? "; L
INE f$
9110 ERASE "m";1;f$
9120 GO TO 9999
9200 PAPER 7: INK 0: CLS : GO TO
9999

```

*Author:* R. Harding

# Enigma



This program presents you with a word and its coded version. Using the same code, you must enter the coded version of the second word. Five tries are allowed – and the computer keeps score.

```
1 POKE 23658,8
2 GO SUB 20000
3 FOR X=0 TO 7: READ M,N
4 POKE USR "A"+X,M: POKE USR
  "B"+X,N
5 NEXT X
6 LET guess=1: DIM W(5): DIM
  Z(5): LET g$="": DIM W$(5): LET
  a$="": DIM z$(5): DIM r(5): DIM
  s(5): DIM s$(5): LET s$="": DIM
  a(5): DIM a$(5): LET a$=""
7 RESTORE : LET n=INT (RND*26
)+1000
8 RESTORE n
9 FOR X=1 TO 5
10 READ W(X)
11 NEXT X
12 LET r=INT (RND*26)+1000
13 RESTORE r
14 FOR X=1 TO 5
15 READ Z(X)
16 NEXT X
17 FOR X=1 TO 5
```



```

75 LET w$(x)=CHR$(w(x))
76 LET z$(x)=CHR$(z(x))
77 LET q#=q#+w$(x)
78 LET q#=q#+z$(x)
80 NEXT x
90 FOR k=1 TO 5
95 LET r(k)=INT (RND*5)+1
100 NEXT k
102 LET p=0
103 LET p=p+1
105 LET s=INT (RND*2)+1
110 IF s=1 THEN GO TO 150
115 LET s(p)=w(p)+r(p)
117 LET a(p)=z(p)+r(p)
125 IF p>=5 THEN GO TO 250
130 GO TO 103
150 LET s(p)=w(p)-r(p)
152 LET a(p)=z(p)-r(p)
160 IF p>=5 THEN GO TO 250
165 GO TO 103
250 FOR x=1 TO 5
255 LET s$(x)=CHR$(s(x))
256 LET a$(x)=CHR$(a(x))
257 LET s#=s#+s$(x)
258 LET a#=a#+a$(x)
260 NEXT x
400 PRINT INK 1;TAB 10;"ENIGMA"
: PRINT : PRINT : PRINT : PRINT
500 PRINT INK 2;"In a certain c
ode.:"
510 PRINT : PRINT g$;" AAAAB ";
s$
520 PRINT : PRINT INK 2;"In the
same code.:"
530 PRINT : PRINT q$;" AAAAB ";
FLASH 1; INVERSE 1;"?????"
535 LET n=0; LET x=3
540 INPUT x$
550 IF x$(<>)a$ THEN LET guess=gu
ess+1; PRINT AT 20,20;x$; FLASH 1
;" WRONG"; LET n=n+1
555 IF x#=a$ THEN GO TO 700
560 IF n>=5 THEN PRINT AT 20,10
; INK 3;"The word was ";a$; PAUS
E 0; CLS : GO TO 19
570 LET x=x+2; GO TO 540
700 FOR z=1 TO 7: FOR x=0 TO 7:
BORDER x: NEXT x: NEXT z
710 FOR x=0 TO 10: BEEP .2,x: N
EXT x: PRINT AT 20,0; FLASH 1;"C
ORRECT in ";guess;" guess(es)";
PAUSE 9999; CLS : GO TO 19
900 DATA 0,0,0,4,255,254,0,1,25
5,254,0,4,0,0,0,0
1000 DATA 70,60,71,72,84
1001 DATA 80,60,73,71,76
1002 DATA 82,60,77,73,84
1003 DATA 82,60,80,60,76
1004 DATA 70,70,70,80,80
1005 DATA 77,60,84,72,83
1006 DATA 83,80,80,60,80
1007 DATA 83,80,73,70,83
1008 DATA 83,80,73,60,83
1009 DATA 83,84,60,60,76
1010 DATA 83,84,73,70,84
1011 DATA 83,84,73,70,70
1012 DATA 83,84,82,73,80

```



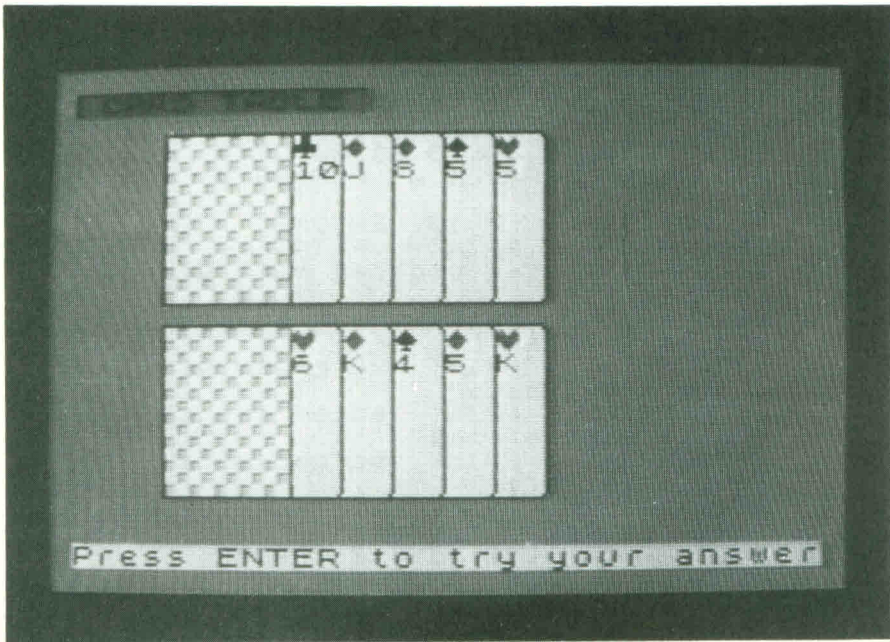
```

1013 DATA 83,84,70,70,69
1014 DATA 84,80,80,70,70
1015 DATA 84,80,70,73,80
1016 DATA 84,80,80,70,80
1017 DATA 83,84,80,80,80
1018 DATA 70,73,80,80,84
1019 DATA 70,70,70,80,80
1020 DATA 80,80,73,70,84
1021 DATA 70,73,70,80,80
1022 DATA 70,73,77,73,84
1023 DATA 77,73,71,72,84
1024 DATA 75,70,79,77,80
1025 DATA 70,70,73,83,89
2000 INK 7: PAPER 0: BORDER 0: C
LS
2010 PRINT AT 0,10;"ENIGMA"
2020 PRINT : PRINT : PRINT
2030 PRINT "The program will pre
sent you "
2040 PRINT : PRINT "with a word
and it's coded "
2050 PRINT : PRINT "version,usin
g the same code,"
2060 PRINT : PRINT "enter the co
ded version of the"
2070 PRINT : PRINT "second word:
Five tries are "
2080 PRINT : PRINT "allowed-the
computer keeps score"
2090 PAUSE 9999: INK 0: PAPER 7:
BORDER 7: CLS : RETURN

```

*Author: A. Wallis*

# Cards



Here is a puzzle that is rather like a common game of cards – but not too much! What you have is a hand of ten playing cards. What you have to do is simply find how many runs of three cards can be made from the cards in the hand. The cards in a run need not all be in the same suit. The Ace is the lowest card and a run cannot ‘go around’ from the King to the Ace.

```

1 REM *****
2 REM
3 REM      CARD TABLE
4 REM
5 REM *****
6 REM
100 DIM m$(30)
210 RANDOMIZE
220 GO TO 1000
300 REM ** Message **
310 PRINT AT 20,1; BRIGHT 1; FL
ASH 1; PAPER 5; INK 0;m$
320 GO SUB 400
330 IF INKEY$("<")="" THEN GO TO 33
0
335 LET k#=INKEY$: IF k#="" THE
N GO TO 335

```

```

337 IF k#>="A" AND k#<="Z" THEN
LET k#=CHR$ (CODE (k#)-32)
340 PRINT AT 20,1;"
345 RETURN
350 REM ** Instruction **
360 PRINT AT 20,1; BRIGHT 1; PA
PER 6; INK 0;m$
395 RETURN
400 REM ** Pips **
410 FOR i=1 TO 2
420 BEEP 0.05,50: PAUSE 2
430 NEXT i
445 RETURN
450 REM ** Draw border **
460 PRINT AT 0,0;"█": FOR i=1 T
O 20: PRINT AT i,0;"█": NEXT i
465 PRINT AT 21,0;"█": FOR i=1
TO 30: PRINT AT 21,i;"█": NEXT i
470 PRINT AT 21,31;"█": FOR i=2
0 TO 1 STEP -1: PRINT AT i,31;"█
": NEXT i
475 PRINT AT 0,31;"█": FOR i=30
TO 1 STEP -1: PRINT AT 0,i;"█":
NEXT i
495 RETURN
500 REM ** Raspberry **
510 BEEP 1,16: BEEP 1,12
520 BEEP .5,25: FOR x=23 TO 17
STEP -.5: BEEP .1,x: PAUSE 2: N
EXT x
545 RETURN
550 REM ** Congratulations **
565 RESTORE 570
560 READ n,p: BEEP n*.25,p: IF
n>0 THEN GO TO 560
570 DATA 1,12,1,14,1,16,2,17,2.
5,12
572 DATA 1,17,1,16,1,17,2,19,2.
5,14
574 DATA 1,14,1,16,1,17,1.5,21,
0.5,19
576 DATA 1,19,1,17,1,17,1,16,1,
14,1,16,3,17
580 DATA 0,0
595 RETURN
600 REM
700 REM ** Glissando beeps **
701 REM
710 LET start=13-4*step
720 LET end=13+4*step
730 FOR x=start TO end STEP ste
P
740 BEEP .01,x
750 NEXT x
790 RETURN
799 REM
800 REM ** Draw edge of card **
810 FOR x=1 TO l+6
820 PRINT AT x,c; PAPER 7; OVER
1;"
830 NEXT x
840 PRINT AT l,c;
850 LET clr=2: IF s(card)=1 OR
s(card)=3 THEN LET clr=0
860 PRINT PAPER 7; INK clr; OVE
R 1;y$(s(card))

```

```

870 PRINT AT l+1,c; PAPER 7; IN
K clr; OVER 1;;v$(v(card))
890 PLOT (c)*8,176-l*8
900 DRAW 12,0; DRAW 4,-4,-PI/2
910 DRAW 0,-49
920 DRAW -4,-4,-PI/2; DRAW -12,
0
990 RETURN
999 REM
1000 REM ** Show instructions
1001 REM
1050 RESTORE 8000
1060 PRINT AT 2,0;
1070 READ i$: IF i$(1)="@" THEN
GO TO 1200
1080 PRINT i$
1090 LET step=-1; GO SUB 700
1100 READ i$: IF i$(1)="@" THEN
GO TO 1200
1110 PRINT i$
1120 LET step=1; GO SUB 700
1150 GO TO 1070
1200 LET m$="Press any key to de
al..."; GO SUB 300
1999 REM
2000 REM ** Generate puzzle **
2001 REM
2020 LET m$="Shuffling the cards
now..."; GO SUB 350
2050 RANDOMIZE
2060 LET n=10
2070 DIM s(n); DIM v(n)
2100 FOR i=1 TO n
2120 LET v(i)=1+INT (RND*13)
2130 LET s(i)=1+INT (RND*4)
2140 LET used=0
2150 FOR j=1 TO i-1
2160 IF s(i)=s(j) AND v(i)=v(j)
THEN LET used=1
2170 NEXT j
2180 IF used=1 THEN GO TO 2120
2200 NEXT i
2290 LET runs=0
2300 FOR i=1 TO n
2310 FOR j=i+1 TO n
2320 FOR k=j+1 TO n
2330 LET d1=ABS (v(i)-v(j))
2340 LET d2=ABS (v(i)-v(k))
2350 LET d3=ABS (v(j)-v(k))
2370 IF d1>0 AND d2>0 AND d3>0 T
HEN IF d1+d2+d3=4 THEN LET runs=
runs+1
2400 NEXT k
2410 NEXT j
2415 LET step=-1; GO SUB 700
2420 NEXT i
2500 IF runs=0 THEN GO TO 2100
2999 REM
3000 REM ** Display puzzle **
3001 REM
3050 BORDER 0; PAPER 4; INK 0; C
LS
3060 PRINT AT 1,1; PAPER 2;" CAR
D TABLE "
3090 RESTORE 8200
3120 FOR i=0 TO 7: READ byte: PO
KE USR "a"+i,byte: NEXT i

```



```

3130 FOR i=0 TO 7: READ byte: PO
KE USR "b"+i,byte: NEXT i
3140 FOR i=0 TO 7: READ byte: PO
KE USR "c"+i,byte: NEXT i
3150 FOR i=0 TO 7: READ byte: PO
KE USR "d"+i,byte: NEXT i
3160 LET y$="XXXX"
3170 DIM v$(13,2)
3180 RESTORE 8400
3190 FOR i=1 TO 13: READ v$(i):
NEXT i
3200 LET l1=3: LET l2=11
3220 LET card=0
3250 FOR l=l1 TO l2 STEP l2-l1
3260 FOR j=1 TO 7
3270 PRINT AT l+j-1,5: PAPER 7:
INK 5;"XXXXXX"
3280 NEXT j
3290 PLOT 39,176-l*8
3300 DRAW 41,0: DRAW 0,-57: DRAW
-41,0: DRAW 0,57
3310 LET c=8
3320 FOR j=1 TO 5
3330 LET c=c+2
3350 LET card=card+1
3360 GO SUB 800
3400 NEXT j
3450 NEXT l
3500 LET m$="Press ENTER to try
your answer": GO SUB 350
3600 LET step=1: LET count=1: LE
T delay=100
3610 LET count=count+1
3620 IF INKEY$>" " THEN GO TO 400
0
3630 IF count<delay THEN GO TO 3
610
3640 GO SUB 700
3650 LET step=-1: LET count=1
3660 LET count=count+1
3670 IF INKEY$>" " THEN GO TO 400
0
3680 IF count<delay THEN GO TO 3
660
3690 GO SUB 700
3700 GO TO 3600
3999 REM
4000 REM ** Get answer **
4001 REM
4050 INPUT PAPER 5: INK 0: BRIGH
T 1: "How many runs ? "; LINE r$
4060 LET answer=VAL r$
4070 LET ok=0
4080 IF answer=runs THEN LET ok=
1
4499 REM
4500 REM ** Check answer **
4501 REM
4550 IF ok=0 THEN LET m$="NO - d
on't bet too much !": GO SUB 350
: GO SUB 500: PAUSE 0
4570 IF ok=1 THEN LET m$="YES -
you win this trick !": GO SUB 35
0: GO SUB 550: PAUSE 0
4580 LET m$="Do you want another
deal ?": GO SUB 300
4590 IF k$<>"y" THEN PAPER 7: IN

```

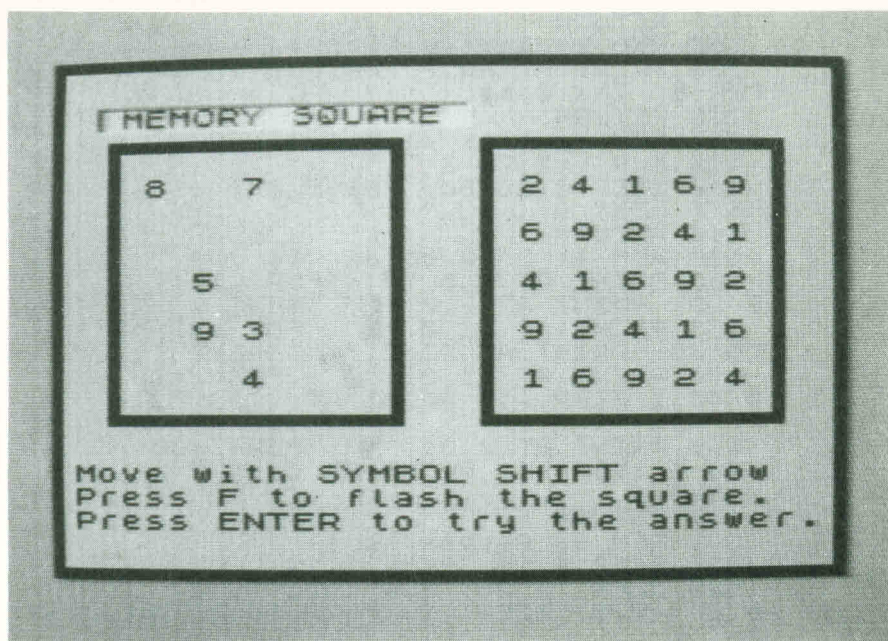
```

K 0: CLS : GO TO 9999
4600 GO TO 2000
7999 REM
8000 REM ** Instruction data **
8001 REM
8010 DATA "          CARD TABLE","
"
8020 DATA "Here is a puzzle whic
h is "
8030 DATA "rather like a common
game of "
8040 DATA "cards - but not too m
uch !"
8050 DATA "What you have is a ha
nd of ten"
8060 DATA "playing cards. What
you have "
8070 DATA "to do is simply find
how many"
8080 DATA "runs of three cards c
an be made"
8085 DATA "from the cards in the
hand."
8090 DATA "The cards in a run ne
ed not all"
8100 DATA "be in the same suit.
The Ace is"
8110 DATA "the lowest card, and
a run", "cannot 'go round' from t
he King"
8130 DATA "to the Ace.", " "
8140 DATA "No cheating !"
8190 DATA "@ "
8199 REM
8200 REM * UDG data for card and
other symbols
8201 REM
8210 DATA 0,8,28,62,127,62,28,8:
REM Diamond
8220 DATA 0,34,119,127,127,62,28
,8: REM Heart
8230 DATA 0,8,28,62,127,62,8,28:
REM Spade
8240 DATA 28,28,28,127,127,127,8
,28
8400 REM ** Card values **
8410 DATA "A","2","3","4","5","6
","7","8","9","10","J","Q","K"
8990 GO TO 9999
9000 INPUT "File to save ? "; LI
NE f#
9010 SAVE "m";1:f#
9020 GO TO 9999
9100 INPUT "File to erase ? "; L
INE f#
9110 ERASE "m";1:f#
9120 GO TO 9999
9200 PAPER 7: INK 0: CLS : GO TO
9999

```

*Author:* S. Johnstone

# Memory Square



This puzzle gives you a square of 5 by 5 numbers. You have to copy into a blank square. The problem is that we only let you see it for a couple of seconds at a time. As some consolation, we tell you that the square is made up according to these rules: there are only five different digits; no two digits are the same in any row, column or diagonal. You score points out of 10 for the number of times you look at the square you are copying.

```

1 REM *****
2 REM
3 REM     MEMORY SQUARE
4 REM
5 REM *****
6 REM
7 REM
8 REM
9 REM
10 REM
11 REM
12 REM
13 REM
140 DIM m$(30)
150 GO TO 1000
200 REM ** Message **
310 PRINT AT 20,1; BRIGHT 1; FL
ASH 1; PAPER 5; INK 0;m$
320 GO SUB 400
330 IF INKEY#(<>"") THEN GO TO 33
0

```



```

335 LET k#=INKEY$: IF k#="" THEN
N GO TO 335
337 IF k#>="A" AND k#<="Z" THEN
LET k#=CHR$ (CODE (k#)-32)
340 PRINT AT 20,1;"
345 RETURN
350 REM ** Instruction **
360 PRINT AT 20,1; BRIGHT 1; PA
PER 6; INK 0;m#
395 RETURN
400 REM ** Pips **
410 FOR i=1 TO 2
420 BEEP 0.05,50: PAUSE 2
430 NEXT i
445 RETURN
450 REM ** Draw border **
460 PRINT AT 0,0;"█": FOR i=1 T
O 20: PRINT AT i,0;"█": NEXT i
465 PRINT AT 21,0;"█": FOR i=1
TO 30: PRINT AT 21,i;"█": NEXT i
470 PRINT AT 21,31;"█": FOR i=2
0 TO 1 STEP -1: PRINT AT i,31;"█
": NEXT i
475 PRINT AT 0,31;"█": FOR i=30
TO 1 STEP -1: PRINT AT 0,i;"█":
NEXT i
495 RETURN
500 REM ** Raspberry **
510 BEEP 1,16: BEEP 1,12
520 BEEP .5,25: FOR x=23 TO 17
STEP -0.5: BEEP .1,x: PAUSE 2: N
EXT x
545 RETURN
550 REM ** Congratulations **
555 RESTORE 570
560 READ n,p: BEEP n*0.25,p: IF
n>0 THEN GO TO 560
570 DATA 1,12,1,14,1,16,2,17,2.
5,12
572 DATA 1,17,1,16,1,17,2,19,2.
5,14
574 DATA 1,14,1,16,1,17,1.5,21,
0.5,19
576 DATA 1,19,1,17,1,17,1,16,1,
14,1,16,3,17
580 DATA 0,0
595 RETURN
700 REM ** Function to print di
git at row l, col c
710 DEF FN s$(l,c,x)=FN p$(l*2+
3,c*2+2)+STR$ x
750 DEF FN p$(l,c)=CHR$ (22)+CH
R$ (l)+CHR$ (c)
800 REM ** Function to print cu
rsor on row l, column c **
810 DEF FN c$(l,c)=FN p$(l*2+3,
c*2+2)+CHR$ (18)+CHR$ (1)+CHR$ (
21)+CHR$ (1)+" "
850 REM ** Function to remove c
ursor
860 DEF FN d$(l,c)=FN p$(l*2+3,
c*2+2)+CHR$ (18)+CHR$ (0)+CHR$ (
21)+CHR$ (1)+" "
899 REM
900 REM ** Flash copy square **
901 REM

```



```

905 PRINT AT 4,18;"
910 FOR x=1 TO 5: PRINT AT x*2+
3,18;"
920 FOR y=1 TO 5: PRINT z(x,y);
"
NEXT y
930 PRINT AT x*2+4,18;"
"
NEXT x
940 PAUSE time*50
950 FOR x=4 TO 14: PRINT AT x,1
8;"
NEXT x
990 RETURN
1000 REM ** Instructions **
1050 BORDER 5: PAPER 7: INK 0
1060 CLS : RESTORE 8000
1070 READ i$
1080 POKE 23692,255: REM Poke ma
kes screen scroll without asking
1090 PRINT AT 21,0;
1100 PRINT i$: BEEP .2,30
1120 READ i$: IF i$(1)<>"@" THEN
GO TO 1100
1200 LET m$="Press key for the f
irst look...": GO SUB 300
1999 REM
2000 REM ** Set up puzzle **
2001 REM
2020 DIM z(5,5): DIM w(5): DIM v
(5)
2030 RANDOMIZE
2040 LET score=10
2050 FOR i=1 TO 5
2055 LET w(i)=INT (RND*10)
2057 LET used=0
2060 FOR j=1 TO i-1
2062 IF w(j)=w(i) THEN LET used=
1
2063 NEXT j
2065 IF used=1 THEN GO TO 2055
2069 NEXT i
2070 FOR i=1 TO 5: LET z(i,6-i)=
w(i): NEXT i
2150 FOR i=1 TO 5
2160 LET l=i: LET c=6-i
2170 FOR j=1 TO 4
2180 LET l=l-2: IF l<1 THEN LET
l=l+5
2190 LET c=c+1: IF c>5 THEN LET
c=c-5
2200 LET z(l,c)=w(i)
2210 NEXT j
2220 NEXT i
2999 REM
3000 REM ** Display screen **
3001 REM
3020 DIM a(5,5)
3030 BORDER 3: PAPER 6: INK 0: C
LS: GO SUB 450
3035 PRINT AT 2,2: BRIGHT 1: PAP
ER 3: INK 0;" MEMORY SQUARE "
3040 PRINT AT 3,2;"
3050 FOR i=4 TO 14
3050 PRINT AT i,2;"
3070 NEXT i
3080 PRINT AT 15,2;"

```

```

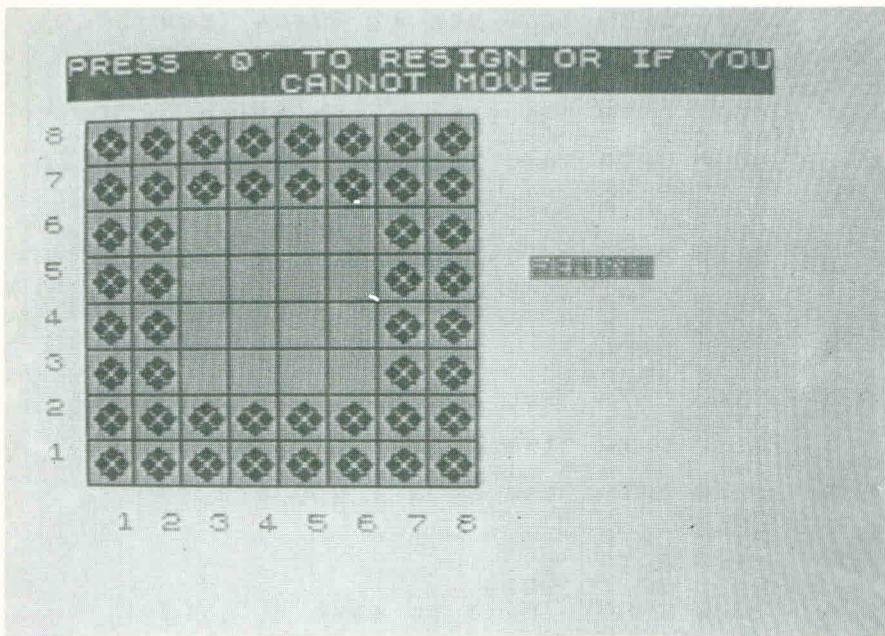
3100 PRINT AT 17,1;"Move with SY
MBOL SHIFT arrow"
3110 PRINT AT 18,1;"Press F to f
lash the square."
3115 PRINT AT 19,1;"Press ENTER
to try the answer."
3130 LET time=5: GO SUB 900
3999 REM
4000 REM ** Get answer **
4001 REM
4050 LET l=1: LET c=1
4100 PRINT FN c$(l,c)
4150 IF INKEY$("<") THEN GO TO 41
50
4160 PAUSE 0: LET k$=INKEY$
4180 PRINT FN d$(l,c)
4190 LET ok=0
4200 IF k$="/" AND l>1 THEN LET
l=l-1: GO TO 4100
4220 IF k$="(" AND c<5 THEN LET
c=c+1: GO TO 4100
4240 IF k$="%" AND c>1 THEN LET
c=c-1: GO TO 4100
4260 IF k$="&" AND l<5 THEN LET
l=l+1: GO TO 4100
4280 IF k$=CHR$ (13) THEN GO TO
4500
4360 IF k$>="0" AND k$<="9" THEN
LET a(l,c)=VAL k$: PRINT FN s$(
l,c,VAL k$): LET ok=1
4380 IF k$="f" OR k$="F" THEN LE
T time=2: GO SUB 900: LET score=
score-1
4400 IF score=0 THEN GO TO 5000
4450 IF ok=0 THEN BEEP .2,25
4460 GO TO 4100
4499 REM
4500 REM ** Check answer **
4501 REM
4550 LET ok=1
4560 FOR l=1 TO 5
4570 FOR c=1 TO 5
4580 IF a(l,c)<>z(l,c) THEN LET
ok=0
4590 NEXT c
4600 NEXT l
4650 IF ok=1 THEN LET m$="Well r
emembered - SCORE "+STR$ score:
GO SUB 350: GO SUB 550: PAUSE 0
4670 IF ok=0 THEN LET m$="Rotten
memory ! - SCORE now "+STR$ sco
re: GO SUB 350: GO SUB 500: PAUS
E 0
4700 LET m$="Do you want another
go? (Y/N)": GO SUB 300
4720 IF k$("<")<"y" THEN CLS : GO TO
9999
4740 IF ok=1 THEN GO TO 2000
4750 IF ok=0 THEN GO TO 4000
5000 LET m$="You've run out of p
oints !": GO SUB 350: GO SUB 500
: PAUSE 0: GO TO 2000
8000 DATA " " MEMORY SQUARE"
8010 DATA " "
8020 DATA "This puzzle gives you
a square "

```

```
8030 DATA "of 5 by 5 numbers. Y
ou have to "
8040 DATA "copy it into a blank
square."
8050 DATA "The problem is that w
e only let"
8060 DATA "you see it for a coup
le of"
8070 DATA "seconds at a time..."
8080 DATA "As some consolation,
we tell"
8090 DATA "you that the square i
s made up"
8100 DATA "according to these ru
les:"
8110 DATA "    - Only five differ
ent digits"
8120 DATA "    - No two digits th
e same in "
8130 DATA "    any row, column
or diagonal"
8140 DATA "You score points out
of 10 for"
8150 DATA "the number of times y
ou look at"
8160 DATA "the square you are co
pying."
8170 DATA " "," "," "
8190 DATA "@"
8990 GO TO 9999
9000 INPUT "File to save ? "; LI
NE f$
9010 SAVE "*"":1)f$
9020 GO TO 9999
9100 INPUT "File to erase ? "; L
INE f$
9110 ERASE "*"":1)f$
9120 GO TO 9999
```

*Author:* T. M. Reed

# Diagonalle



This game is similar to the classic game of Solitaire. The object is to remove as many of the pieces as possible by jumping over pieces in a diagonal direction and thereby removing them. Removal of 40-44 pieces is good - removal of 45-47 pieces is very good.

```

10 REM DIAGONALLE
20 REM B: CHRIS HOWARD STONE
30 REM S: SOUTON GROVE HULL
40 REM 1: LINDERSIDE HUS 3RD
50 REM 1: 1994
100 REM 1: USER GRAPHICS
110 RESTORE
120 FOR A=144 TO 150
130 FOR B=0 TO 7
140 READ C: POKE USR CHR$ A+B,C
150 NEXT B
160 NEXT A
200 REM INSTRUCTIONS
210 BORDER 0: PAPER 0: CLS
220 PAPER 2: INK 6: PRINT AT 0,
21:"DIAGONALLE": PAPER 0: INK 4
230 PRINT AT 2,1:"This is a gam
e played on an 8 by 8 matrix.48
pieces are placed on the two out
ermost locations of the matrix.
"
```



```

240 PRINT AT 7,1;"You move by j
umping over pieces in a diagonal
direction (and hence removing
them) into an"
250 PRINT "empty location. You m
ay not jump in any other directi
on and you may not jump over an
y 'empty' locations."
260 PRINT AT 15,1;"Removal of 4
0-44 pieces is good going."
270 PRINT AT 17,1;"Removal of 4
5-47 pieces is very good going."
280 PAPER 1: INK 7: PRINT AT 21
,3;"PRESS ANY KEY TO CONTINUE."
290 BEEP .05,24
300 PAUSE 0
310 BEEP .05,24
350 REM INITIALISE VARIABLES
360 LET PIECESLEFT=48: LET PIEC
ESTAKEN=0: LET FROMX=0: LET FROM
Y=0: LET TOX=0: LET TOY=0: LET X
JUMPED=0: LET YJUMPED=0
370 DIM P(8,8)
380 FOR A=1 TO 8: LET P(A,8)=1:
LET P(A,7)=1: LET P(A,2)=1: LET
P(A,1)=1: NEXT A
390 FOR A=6 TO 3 STEP -1: LET P
(1,A)=1: LET P(2,A)=1: LET P(7,A
)=1: LET P(8,A)=1: NEXT A
450 REM ORAL PLAY AREA
460 OVER 0: BORDER 7: PAPER 7:
CLS
470 PAPER 6
480 FOR A=3 TO 18
490 PRINT AT A,2;"
"
500 NEXT A
510 INK 2
520 FOR A=152 TO 24 STEP -16
530 PLOT 15,A: DRAW 128,0
540 NEXT A
550 FOR A=15 TO 143 STEP 16
560 PLOT A,152: DRAW 0,-128
570 NEXT A
600 REM ORAL PIECES
610 OVER 1
620 FOR A=2 TO 16 STEP 2
630 PRINT AT 3,A;"▲": AT 4,A;"▼"
"
640 PRINT AT 5,A;"▲": AT 6,A;"▼"
"
650 PRINT AT 15,A;"▲": AT 16,A;"▼"
"
660 PRINT AT 17,A;"▲": AT 18,A;"▼"
"
670 NEXT A
680 FOR A=7 TO 13 STEP 2
690 PRINT AT A,2;"▲": AT A+1,2;"▼"
"
" AT A,4;"▲": AT A+1,4;"▼"
" AT A,
14;"▲": AT A+1,14;"▼"
" AT A,
16;"▲": AT A+1,16;"▼"
"
700 NEXT A
710 OVER 0: PAPER 7: INK 3
720 FOR A=8 TO 1 STEP -1
730 PRINT AT 19-2*A,0:A
740 NEXT A
750 FOR A=1 TO 8

```

```

760 PRINT AT 20,1+2*A);A
770 NEXT A
780 PAPER 1: INK 7:
790 PRINT AT 0,1;"PRESS '0' TO
RESIGN OR IF YOU";AT 1,1;"
      CANNOT MOVE
800 BEEP .25,24: BEEP .25,12
1000 REM MAIN LOOP STARTS HERE
1010 REM INPUT FROMX
1020 PAPER 7: INK 0: FLASH 1: PR
INT AT 9,20;"FROM:": FLASH 0: IN
K 3
1030 LET M$=INKEY$: IF M$="" THE
N GO TO 1030
1040 GO SUB 2000: IF CODE M$>48
AND CODE M$<57 THEN GO TO 1060
1050 BEEP .5,-12: GO TO 1030
1060 BEEP .05,12: LET FROMX=VAL
M$: PRINT AT 9,26;FROMX
1070 FOR Z=1 TO 34: NEXT Z
1080 REM INPUT FROMY
1090 LET M$=INKEY$: IF M$="" THE
N GO TO 1090
1100 GO SUB 2000: IF CODE M$>48
AND CODE M$<57 THEN GO TO 1120
1110 BEEP .5,-12: GO TO 1090
1120 BEEP .05,24: LET FROMY=VAL
M$: PRINT AT 9,29;FROMY
1130 PAPER 0: INK 7: PRINT AT 9,
20;"FROM:"
1140 FOR Z=1 TO 34: NEXT Z
1150 REM INPUT TOX
1160 PAPER 0: INK 7: FLASH 1: PR
INT AT 12,20;" TO:": FLASH 0: I
NK 3: PAPER 7
1170 LET M$=INKEY$: IF M$="" THE
N GO TO 1170
1180 GO SUB 2000: IF CODE M$>48
AND CODE M$<57 THEN GO TO 1200
1190 BEEP .5,-12: GO TO 1170
1200 BEEP .05,12: LET TOX=VAL M$
: PRINT AT 12,26;TOX
1210 FOR Z=1 TO 34: NEXT Z
1220 REM INPUT TOY
1230 LET M$=INKEY$: IF M$="" THE
N GO TO 1230
1240 GO SUB 2000: IF CODE M$>48
AND CODE M$<57 THEN GO TO 1260
1250 BEEP .5,-12: GO TO 1230
1260 BEEP .05,24: LET TOY=VAL M$
: PRINT AT 12,29;TOY
1270 PAPER 0: INK 7: PRINT AT 12
,20;" TO:"
1300 REM VALIDATE MOVE
1310 IF P(FROMX,FROMY)=0 OR P(TO
X,TOY)=1 THEN GO TO 1500
1320 REM CHECK FOR NON-DIAGONAL
JUMP:
1330 LET XJUMPED=(FROMX-1)*(FROM
X>TOX)+(FROMX+1)*(FROMX<TOX)
1340 IF (FROMX>TOX) AND (FROMX-T
OX<>2) THEN GO TO 1500
1350 IF (FROMX<TOX) AND (TOX-FRO
MX<>2) THEN GO TO 1500
1360 IF (FROMY>TOY) AND (FROMY-T
OY<>2) THEN GO TO 1500
1370 IF (FROMY<TOY) AND (TOY-FRO

```

```

MY<>2) THEN GO TO 1500
1380 REM CHECK FOR JUMP OVER A P
1390 LET XJUMPED=(FROMX-1)*(FROM
X>TOX)+(FROMX+1)*(FROMX<TOX)
1400 LET YJUMPED=(FROMY-1)*(FROM
Y>TOY)+(FROMY+1)*(FROMY<TOY)
1405 IF YJUMPED=0 OR XJUMPED=0 T
HEN GO TO 1500
1410 IF P(XJUMPED,YJUMPED)=0 THE
N GO TO 1500
1450 REM MOVE VALIDATED
1460 GO TO 1550
1500 REM ERROR IN INPUT
1510 BEEP .5,-18: PAPER 7: PRINT
  AT 9,26;" ";AT 12,26;" ";
  GO TO 1010
1550 REM CALL NEW POSITIONS
1560 PAPER 7: PRINT AT 9,26;"
  ";AT 12,26;" "
1570 INK 2: PAPER 6
1580 PRINT AT 19-2*FROMY,2*FROMX
  ;" ";AT 20-2*FROMY,2*FROMX;" "
1590 OVER 1: PRINT AT 19-2*TOY,2
*TOX;" ";AT 20-2*TOY,2*TOX;" "
  : OVER 0
1600 PRINT AT 19-2*YJUMPED,2*XJU
MPED;" ";AT 20-2*YJUMPED,2*XJUM
PED;" "
1650 REM ADJUST MATRIX ARRAY AND
  VARIABLES
1660 LET P(FROMX,FROMY)=0: LET P
(TOX,TOY)=1: LET P(XJUMPED,YJUM
PED)=0
1670 LET PIECESLEFT=PIECESLEFT-1
  : LET PIECESTAKEN=PIECESTAKEN+1
1680 GO TO 1000: REM JUMP BACK
  TO START OF MAIN LOOP
2000 REM JUST DETECTION
  SUBROUTINE
2010 IF M$="Q" OR M$="q" THEN GO
  TO 2500
2020 RETURN
2500 REM PLAYER HAS DECIDED TO
  END THE GAME
2510 LET J$=STR$ PIECESTAKEN
2520 IF LEN J$=1 THEN LET J$=J$+
  "
2530 IF LEN J$=2 THEN LET J$=J$+
  "
2540 LET P$=STR$ PIECESLEFT
2550 PAPER 2: INK 6
2560 PRINT AT 8,20;"YOU TOOK ";J
$
2570 PRINT AT 9,20;"PIECES
  "
2580 IF PIECESLEFT<10 THEN LET P
$=P$+"
2590 IF PIECESLEFT>9 THEN LET P$
=P$+" "
2600 PRINT AT 10,20;"LEAVING ";P
$
2610 PRINT AT 11,20;"PIECES.
  "
2620 PRINT AT 12,20;"ANOTHER TRY
  ?"
2630 FOR A=1 TO 2

```



```

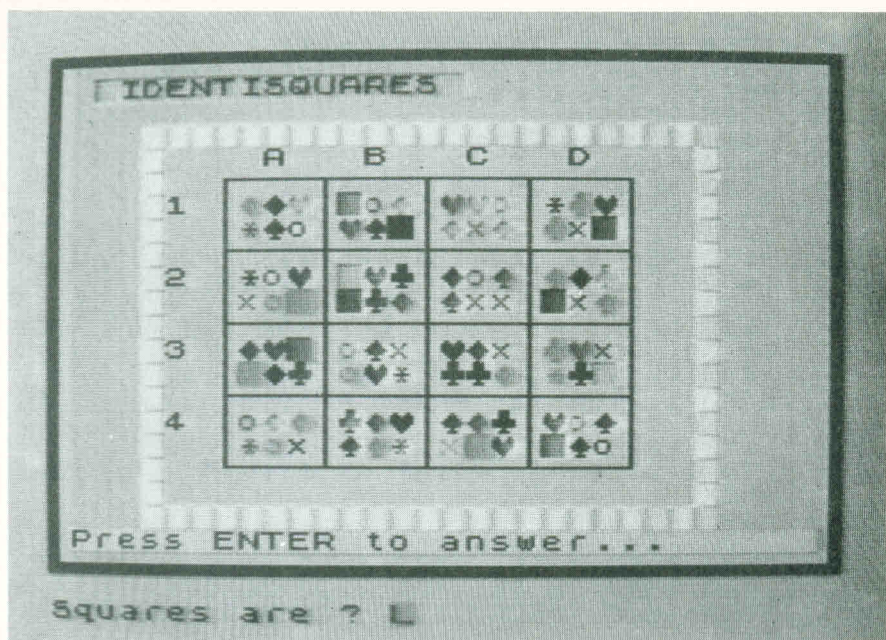
2640 BEEP 1.3,2: BEEP .4,0: BEEP
.4,5: BEEP .4,4: BEEP .2,2: BEE
P 1.5,2
2650 NEXT A
2660 FOR A=1 TO 2
2670 BEEP 1.3,7: BEEP .4,5: BEEP
.4,4: BEEP .4,2: BEEP .2,0: BEE
P 1.5,2
2680 NEXT A
2690 PRINT AT 13,20;" (Y OR N)
"
2700 LET R#=INKEY$: IF R#="" THE
N GO TO 2700
2710 IF R#="Y" OR R#="y" THEN GO
TO 350
2720 IF R#="N" OR R#="n" THEN RA
NDOMIZE USA 0
2730 BEEP .5,-12: REM REPLY NOT
ACCEPTABLE
3000 REM DATA FOR USER GRAPHICS
3010 DATA 0,0,1,3,15,11,29,62
3020 DATA 0,0,128,192,240,208,18
4,124
3030 DATA 62,29,11,15,3,1,0,0
3040 DATA 124,184,208,240,192,12
8,0,0
3050 DATA 1,1,1,1,1,1,1,1
3060 DATA 1,1,1,1,1,1,1,255
3070 DATA 0,0,0,0,0,0,0,255

```

*Author:* C. H. Stone



# Identisquares



You are shown a grid of boxes, each box containing six symbols. There are two boxes with the same symbols, although maybe in a different order. You have to find which pair of boxes has the same symbols. When asked for the answer, enter the letter for the column and the number of the row, for both boxes. For example, a3 b4 would mean that column a, row 3 was the same as column b, row 4.

```

1 REM *****
2 REM
3 REM          IDENTISQUARES
4 REM
5 REM *****
6 REM
100 DIM m$(30)
210 RANDOMIZE
295 GO TO 1000
300 REM ** Message **
310 PRINT AT 20,1: BRIGHT 1: FL
ASH 1: PAPER 5: INK 0:m$
320 GO SUB 400
330 IF INKEY$("<") THEN GO TO 33
0

```

```

335 LET k#=INKEY$: IF k#="" THEN
N GO TO 335
337 IF k#>="A" AND k#<="Z" THEN
LET k#=CHR# (CODE (k#)-32)
340 PRINT AT 20,1;"
345 RETURN
350 REM ** Instruction **
350 PRINT AT 20,1; BRIGHT 1; PA
PER 5; INK 0;m$
395 RETURN
400 REM ** Pips **
410 FOR i=1 TO 2
420 BEEP 0.05,50: PAUSE 2
430 NEXT i
445 RETURN
450 REM ** Draw border **
460 PRINT AT 0,0;"█": FOR i=1 T
O 20: PRINT AT i,0;"█": NEXT i
465 PRINT AT 21,0;"█": FOR i=1
TO 30: PRINT AT 21,i;"█": NEXT i
470 PRINT AT 21,31;"█": FOR i=2
0 TO 1 STEP -1: PRINT AT i,31;"█
": NEXT i
475 PRINT AT 0,31;"█": FOR i=30
TO 1 STEP -1: PRINT AT 0,i;"█":
NEXT i
485 RETURN
500 REM ** Raspberry **
510 BEEP 1,16: BEEP 1,12
520 BEEP .5,25: FOR x=23 TO 17
STEP -0.5: BEEP .1,x: PAUSE 2: N
EXT x
545 RETURN
550 REM ** Congratulations **
555 RESTORE 570
560 READ n,p: BEEP n*0.25,p: IF
n>0 THEN GO TO 550
570 DATA 1,12,1,14,1,16,2,17,2,
5,12
572 DATA 1,17,1,16,1,17,2,19,2,
5,14
574 DATA 1,14,1,16,1,17,1,5,21,
0,5,19
576 DATA 1,19,1,17,1,17,1,16,1,
14,1,16,3,17
580 DATA 0,0
585 RETURN
590 REM
700 REM ** Choose set of symbol
s for a box**
701 REM Box to use in q
702 REM
710 FOR x=1 TO sav: LET v(q,x)=
0: NEXT x
720 LET s$(q)=""
730 FOR x=1 TO 6
735 LET sym=1+INT (RND*sav)
737 IF v(q,sym)>=2 THEN GO TO 7
35
740 LET s$(q,x)=v$(sym)
750 LET v(q,sym)=v(q,sym)+1
760 NEXT x
780 LET used=0
790 FOR x=1 TO q-1
795 LET match=1
800 FOR y=1 TO sav

```

```

810 IF U(X,Y) <> U(Q,Y) THEN LET
match=0
820 NEXT Y
830 IF match=1 THEN LET used=1
840 NEXT X
850 IF used=1 THEN GO TO 710
860 RETURN
880 REM
1000 REM ** Show instructions
1001 REM
1050 RESTORE 8000
1060 PRINT AT 2,0;
1070 READ I$: IF I$(1) <> "@" THEN
PRINT I$: BEEP .1,20: GO TO 107
0
1200 LET M$="Good luck! Press
any key...": GO SUB 300
1999 REM
2000 REM ** Generate puzzle **
2001 REM
2040 LET M$="Choosing the square
s no#...": GO SUB 350
2050 RANDOMIZE
2060 LET pairs=1
2070 DIM P(pairs,2)
2080 DIM S$(16,6)
2090 LET sav=8: DIM W$(sav): DIM
U(16,sav)
2095 RESTORE 8200
2110 FOR i=0 TO 7: READ byte: PO
KE USR "a"+i,byte: NEXT i
2120 FOR i=0 TO 7: READ byte: PO
KE USR "b"+i,byte: NEXT i
2130 FOR i=0 TO 7: READ byte: PO
KE USR "c"+i,byte: NEXT i
2140 FOR i=0 TO 7: READ byte: PO
KE USR "d"+i,byte: NEXT i
2190 RESTORE 8400
2200 FOR i=1 TO sav: READ W$(i):
NEXT i
2250 FOR i=1 TO pairs
2270 LET q=1+INT (RND*16)
2280 LET r=1+INT (RND*16)
2290 IF r=q THEN GO TO 2280
2310 LET P(i,1)=q: LET P(i,2)=r
2345 NEXT i
2350 FOR q=1 TO 16
2360 IF q <> P(1,1) AND q <> P(1,2)
THEN GO SUB 700
2370 BEEP .3,q
2380 NEXT q
2450 LET q=P(1,1): LET r=P(1,2)
2500 GO SUB 700
2515 FOR J=1 TO sav: LET U(r,J)=
U(q,J): NEXT J
2520 LET Z$=S$(q): FOR J=1 TO 6
2525 LET n=1+INT (RND*6): IF Z$(
n)=" " THEN GO TO 2525
2530 LET S$(r,J)=Z$(n): LET Z$(n
)=" "
2540 NEXT J
2999 REM
3000 REM ** Display puzzle **
3001 REM
3050 BORDER 5: PAPER 7: INK 0: C
LS : GO SUB 450
3060 PRINT AT 1,2: PAPER 5:" IDE

```



```

NTISQUARES "
3090 LET b$=" "
3100 PRINT AT 3,4: BRIGHT 1: FLA
SH 1: PAPER 5: INK 6)" ■■■■■■
■■■■■
3110 FOR i=4 TO 18
3115 LET inv=1-(i-(INT (i/2))+2)
3120 PRINT AT i,4: BRIGHT 1: FLA
SH 1: PAPER 5: INK 6: INVERSE in
v;" ",AT i,28)" "
3130 NEXT i
3140 PRINT AT 19,4: BRIGHT 1: FL
ASH 1: PAPER 5: INK 6)" ■■■■■■
■■■■■
3150 LET c=9
3160 FOR i=65 TO 68
3170 PRINT AT 4,c)CHR$ (i);
3180 LET c=c+4
3190 NEXT i
3200 LET l=6
3210 FOR i=1 TO 4
3220 PRINT AT l,5;i: LET l=l+3
3230 NEXT i
3250 FOR i=60 TO 188 STEP 32
3260 PLOT i,36: DRAW 0,96
3270 NEXT i
3300 FOR i=36 TO 132 STEP 24
3310 PLOT 60,i: DRAW 128,0
3320 NEXT i
3400 LET x=1
3420 FOR l=6 TO 15 STEP 3
3430 FOR c=8 TO 20 STEP 4
3450 PRINT AT l,c)
3455 FOR j=1 TO 3: PRINT INK (IN
T (RAND*7));s$(x,j): NEXT j
3460 PRINT AT l+1,c)
3465 FOR j=4 TO 6: PRINT INK (IN
T (RAND*7));s$(x,j): NEXT j
3467 LET x=x+1
3470 NEXT c
3480 NEXT l
3490 LET m$="Press ENTER to answ
er...": GO SUB 350
3500 RESTORE 8500
3520 IF INKEY$="" THEN GO TO 400
0
3550 READ d,t: IF d>0 THEN BEEP
d,t: GO TO 3550
3560 GO TO 3500
3999 REM
4000 REM ** Get answer **
4001 REM
4050 INPUT "Squares are ? ": LIN
E r$
4060 LET p$=""
4070 FOR i=1 TO LEN r$: IF r$(i)
<>" " THEN LET p$=p$+r$(i)
4080 NEXT i
4090 LET p$=(p$+" ")(1 TO 4)
4100 FOR i=1 TO LEN p$: IF p$(i)
>="a" AND p$(i)<="z" THEN LET p$
(i)=CHR$ (CODE (p$(i))-32)
4110 NEXT i
4120 DIM a(pairs,2)
4130 LET a(1,1)=CODE (p$(1))-64+
(CODE (p$(2))-49)*4
4150 LET a(1,2)=CODE (p$(3))-64+

```



```

(CODE (p$(4))-49)*4
4160 LET ok=0
4170 IF a(1,1)=p(1,1) AND a(1,2)
=p(1,2) THEN LET ok=1
4180 IF a(1,2)=p(1,1) AND a(1,1)
=p(1,2) THEN LET ok=1
4499 REM
4500 REM ** Check answer **
4501 REM
4550 IF ok=0 THEN LET m$="Sorry
- that's not right !": GO SUB 35
0: GO SUB 500: PAUSE 0
4570 IF ok=1 THEN LET m$="Well s
potted - that's right !": GO SUB
350: GO SUB 550: PAUSE 0
4580 LET m$="Do you want another
go ?": GO SUB 300
4590 IF k$<>"y" THEN PAPER 7: IN
K 0: CLS : GO TO 9999
4600 IF ok=0 THEN GO TO 3000
4610 IF ok=1 THEN GO TO 2000
7999 REM
8000 REM ** Instruction data **
8001 REM
8010 DATA " IDENTISQUARE
S" " "
8020 DATA "You are shown a grid
of boxes."
8030 DATA "each box containing s
ix symbols."
8040 DATA "There are two boxes w
ith the "
8050 DATA "same symbols, althoug
h maybe in "
8060 DATA "a different order. Y
ou have to"
8070 DATA "find which pair of bo
xes has the"
8080 DATA "same symbols.", " "
8090 DATA "When asked for the an
swer, enter"
8095 DATA "the letter for the co
lumn and"
8100 DATA "the number for the ro
w, for both"
8110 DATA "the boxes. For examp
le:"
8120 DATA " a3 b4"
8130 DATA "would mean that colum
n a, row 3"
8140 DATA "was the same as colum
n b, row 4." " "
8150 DATA "©"
8199 REM
8200 REM * UDG data for card and
other symbols
8201 REM
8210 DATA 0,8,28,62,127,62,28,8:
REM Diamond
8220 DATA 0,34,119,127,127,62,28
,8: REM Heart
8230 DATA 0,8,28,62,127,62,8,28:
REM Spade
8240 DATA 28,28,28,127,127,127,8
,28
8399 REM
8400 REM * Symbol data *

```

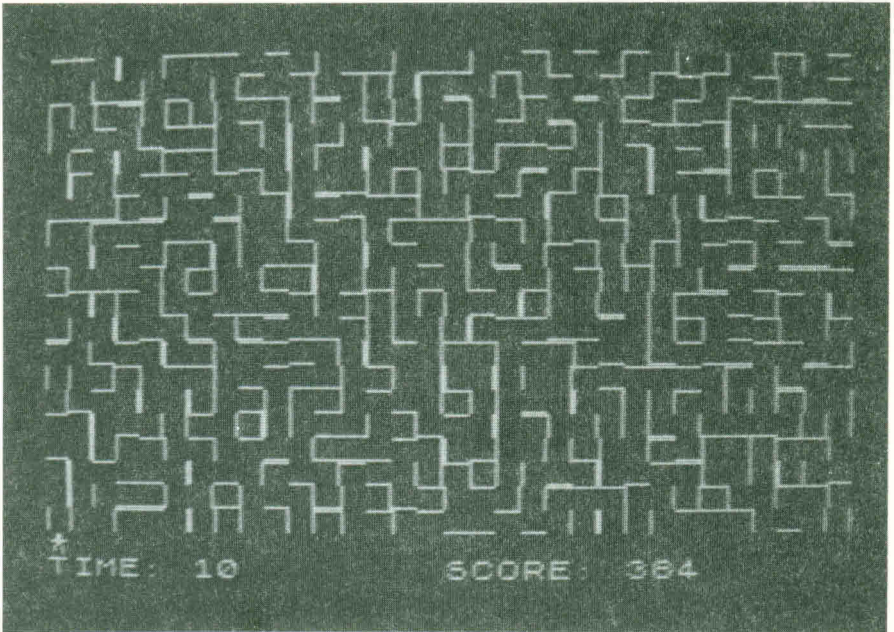
```

8401 REM
8410 DATA "X","O","■","*","A","B"
" " "C" "D"
8500 REM
8500 REM * Music data *
8501 REM
8510 DATA .2,12,.2,14,.5,16,.2,1
6,.2,14,.5,18,0,0
8990 GO TO 9999
9000 INPUT "File to save ? "; LI
NE f#
9010 SAVE "m";1;f#
9020 GO TO 9999
9100 INPUT "File to erase ? "; L
INE f#
9110 ERASE "m";1;f#
9120 GO TO 9999
9200 PAPER 7: INK 0: CLS : GO TO
9999

```

*Author:* J. D. Perkins

# Amazin'



The object of the game is for the player to find his/her way through a large maze, whilst racing against the clock. The aim is to travel from the bottom of the screen to the top, getting as near to the right-hand corner of the screen as possible. There are 10 levels of difficulty and moves downwards or to the left of the screen reduce the player's score, whilst moves upwards or to the right increase it.

```
1 REM          >AMAZIN' <
2 REM COPYRIGHT C BILLENNESS
3 REM          1984
5 DIM A$(20,32,1)
6 LET E=148
10 BORDER 1: PAPER 1: INK 7: C
LS
20 GO SUB 9900
30 CLS : PRINT AT 10,0;"PLEASE
WAIT WHILST MAZE IS BUILT"
40 GO SUB 9500: REM BUILD MAZE
50 LET MOVES=-10: GO SUB 8900
60 GO SUB 9000: REM PRINT MAZE
100 REM MAIN GAME ROUTINE
115 LET SECS=0: LET SCORE=0: LE
T BONUS=0
120 LET POS=640: GO SUB 8000
130 PRINT AT 20,0;CHR$ E
```

```

140 GO SUB 8300
150 LET SCORE=1000
160 POKE 23672,0: POKE 23673,0
1000 REM MAIN GAME ROUTINE
1010 INPUT INKEY$
1020 LET Q#=INKEY$
1030 IF Q#="" THEN GO TO 2000
1100 REM MOVEMENT ALGORITHM
1110 IF NOT Q#="5" THEN GO TO 1200
1120 IF X=0 THEN GO TO 2000
1130 IF Y=20 THEN PRINT AT Y,X;"
": LET POS=POS-1: GO SUB 8000:
PRINT AT Y,X;CHR$ E: LET MOVES=M
OVES+1: GO TO 2000
1140 IF A$(SY,SX)=CHR$ 147 THEN
GO TO 2000
1150 IF A$(SY,X)=CHR$ 145 THEN G
O TO 2000
1160 PRINT AT Y,X;A$(SY,SX): LET
POS=POS-1: GO SUB 8000: PRINT A
T Y,X; OVER 1;CHR$ E: LET MOVES=
MOVES+1: GO TO 2000
1200 IF NOT Q#="6" THEN GO TO 1300
1210 IF Y=20 THEN GO TO 2000
1220 IF A$(SY,SX)=CHR$ 146 THEN
GO TO 2000
1230 IF Y<19 THEN IF A$(SY+1,SX)
=CHR$ 144 THEN GO TO 2000
1240 PRINT AT Y,X;A$(SY,SX): LET
POS=POS+32: GO SUB 8000: PRINT
AT Y,X; OVER 1;CHR$ E: LET MOVES
=MOVES+1: GO TO 2000
1300 IF NOT Q#="7" THEN GO TO 1400
1305 IF Y=0 THEN IF NOT A$(SY,SX
)=CHR$ 144 THEN GO TO 3000: REM
YOU HAVE WON !
1310 IF Y>0 THEN IF A$(SY-1,SX)=
CHR$ 146 THEN GO TO 2000
1320 IF Y<20 THEN IF A$(SY,SX)=C
HR$ 144 THEN GO TO 2000
1330 IF Y=20 THEN PRINT AT Y,X;"
"
1340 IF Y<20 THEN PRINT AT Y,X;A
$(SY,SX)
1350 LET POS=POS-32: GO SUB 8000
1360 PRINT AT Y,X; OVER 1;CHR$ E
1370 LET BONUS=150: GO TO 2000
1400 IF NOT Q#="8" THEN GO TO 2000
1410 IF X=31 THEN GO TO 2000
1420 IF Y=20 THEN PRINT AT Y,X;"
": LET POS=POS+1: GO SUB 8000:
PRINT AT Y,X;CHR$ E: GO TO 2000
1430 IF A$(SY,SX)=CHR$ 145 THEN
GO TO 2000
1440 IF A$(SY,SX+1)=CHR$ 147 THE
N GO TO 2000
1450 PRINT AT Y,X;A$(SY,SX): LET
POS=POS+1: GO SUB 8000: PRINT A
T Y,X; OVER 1;CHR$ E: LET BONUS=
150: GO TO 2000
2000 REM STATUS UPDATE
2010 GO SUB 8300

```



```

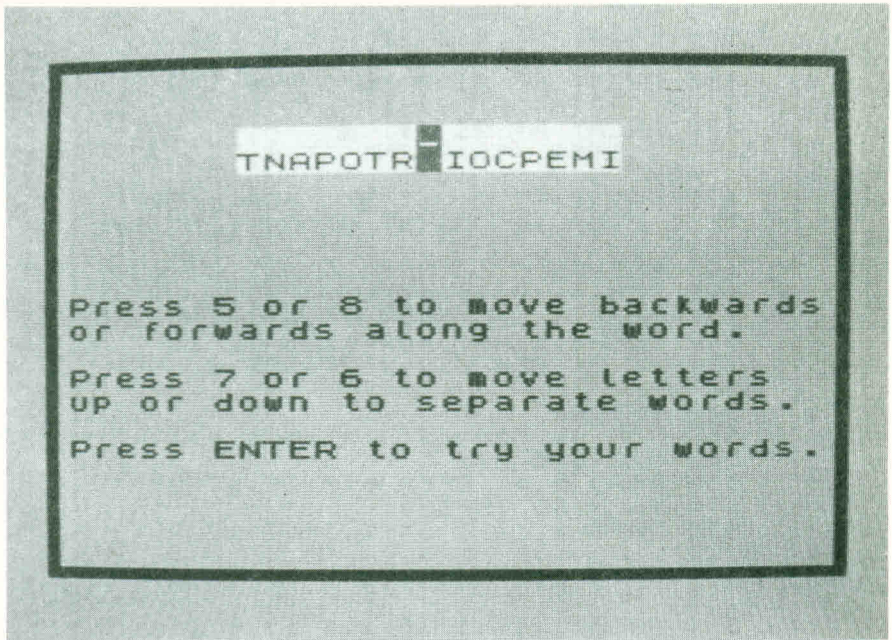
2020 LET BONUS=0
2030 GO TO 1000
3000 REM GAME OVER
3010 FOR H=0 TO 50
3020 OUT 254,4: OUT 254,1
3030 NEXT H
3040 CLS
3050 PRINT AT 10,0: FLASH 1;"CON
GRATULATIONS-YOU HAVE ESCAPED"
3060 LET SCORE=SCORE+X*100
3070 PRINT AT 12,0: PAPER ((SCOR
E(0)+1));"YOUR SCORE WAS ";SCORE
3080 INPUT "ENTER S TO TRY THE S
AME MAZE""AGAIN, ENTER N FOR A
NEW MAZE""; LINE Q$
3090 IF Q$="S" THEN GO TO 50
3100 IF Q$="N" THEN GO TO 30
3110 GO TO 3080
7000 STOP
8000 REM PLAYER POS CALCULATOR
8010 LET Y=INT (POS/32)
8020 LET X=POS-(Y*32)
8030 LET SX=X+1: LET SY=Y+1
8040 RETURN
8100 REM TIME CALCULATOR
8120 LET SECS=PEEK 23672+256*PEE
K 23673
8130 LET SECS=INT (SECS/50)
8140 RETURN
8200 REM SCORE CALCULATOR
8210 LET SCORE=(SCORE+BONUS)-((M
OVES*(MOVES>0))*DIFF)-(SECS*DIFF
)
8220 RETURN
8300 REM POINTS PRINTOUT
8310 GO SUB 8100
8320 GO SUB 8200
8350 PRINT AT 21,0;"TIME: ";SECS
;" "; "SCORE: ";SCORE;" "
8360 RETURN
8900 REM DIFFICULTY FACTOR
8910 CLS : INPUT "INPUT DIFFICUL
TY 0-9 ""0 IS EASIEST, 9 IS HAR
DEST""; DIFF
8920 IF DIFF>9 OR DIFF<0 THEN GO
TO 8910
8930 LET DIFF=DIFF+1
8940 LET MOVES=MOVES+DIFF
8950 RETURN
9000 REM MAZE DISPLAY SUBROUTINE
9010 CLS
9020 FOR X=0 TO 19
9030 FOR Y=0 TO 31
9050 PRINT AT X,Y)A$(X+1,Y+1)
9070 NEXT Y
9080 NEXT X
9090 RETURN
9500 REM GENERATE MAZE
9510 FOR W=1 TO 20
9520 FOR X=1 TO 32
9540 LET Z=INT (RND*4)
9550 LET LTR=144+Z
9560 LET A$(W,X)=CHR$ LTR
9580 NEXT X
9590 NEXT W
9599 RETURN

```

```
9900 REM USER DEFINED GRAPHICS
9905 DATA 255,0,0,0,0,0,0,0: REM
   UDG A
9910 DATA 1,1,1,1,1,1,1,1: REM U
   DG B
9915 DATA 0,0,0,0,0,0,0,255: REM
   UDG C
9920 DATA 128,128,128,128,128,128,128,128: REM UDG D
9925 DATA 0,24,24,126,24,36,36,0
   : REM UDG E
9927 RESTORE
9930 FOR X=0 TO 39
9940 READ Y
9950 POKE (USR "A"+X),Y
9960 NEXT X
9970 RETURN
```

*Author:* C. Billenness

# Mergers



A nice simple puzzle – just two ordinary English words are involved. The trouble is, one of them is spelled backwards and then the two of them are mixed up together. We give you the mixed-up words and your job is just to separate them again. To help a bit, you can move the letters apart on the screen until you think you have sorted out the two words, then ask the computer if you're right.

```
100 DIM m$(30)
200 GO TO 1000
300 REM ** Message **
310 PRINT AT 20,1: BRIGHT 1: FL
ASH 1: PAPER 5: INK 0;m$
320 GO SUB 400
330 IF INKEY#("<>") THEN GO TO 33
0
335 LET k#=INKEY$: IF k#="" THE
N GO TO 335
337 IF k#="A" AND k#<="Z" THEN
LET k#=CHR# (CODE (k#)-32)
340 PRINT AT 20,1;"
345 RETURN
350 REM ** Instruction **
360 PRINT AT 20,1: BRIGHT 1: PA
PER 6: INK 0;m$
```

```

395 RETURN
400 REM ** Pips **
410 FOR i=1 TO 2
420 BEEP 0.05,50: PAUSE 2
430 NEXT i
445 RETURN
450 REM ** Draw border **
460 PRINT AT 0,0;"┌": FOR i=1 TO 20: PRINT AT i,0;"┌": NEXT i
465 PRINT AT 21,0;"└": FOR i=1 TO 30: PRINT AT 21,i;"└": NEXT i
470 PRINT AT 21,31;"└": FOR i=20 TO 1 STEP -1: PRINT AT i,31;"└": NEXT i
475 PRINT AT 0,31;"┐": FOR i=30 TO 1 STEP -1: PRINT AT 0,i;"┐": NEXT i
495 RETURN
500 REM ** Raspberry **
510 BEEP 1,16: BEEP 1,12
520 BEEP .5,25: FOR x=23 TO 17 STEP -0.5: BEEP .1,x: PAUSE 2: NEXT x
545 RETURN
550 REM ** Congratulations **
555 RESTORE 570
560 READ n,p: BEEP n*0.25,p: IF n>0 THEN GO TO 560
570 DATA 1,12,1,14,1,16,2,17,2,5,12
572 DATA 1,17,1,18,1,17,2,19,2,5,14
574 DATA 1,14,1,16,1,17,1.5,21,0.5,19
576 DATA 1,19,1,17,1,17,1,16,1,14,1,16,3,17
580 DATA 0,0
595 RETURN
600 REM
700 REM ** Reverse letters in r
#
701 REM
710 LET x$=""
720 FOR i=LEN r$ TO 1 STEP -1
730 LET x$=x#+r$(i)
740 NEXT i
750 LET r$=x$
760 RETURN
800 REM ** Subroutine to decode a word from data list
820 FOR x=1 TO LEN q$
830 LET xc=CODE q$(x)-10
840 IF xc<65 THEN LET xc=xc+26
845 LET q$(x)=CHR$ xc
850 NEXT x
860 RETURN
900 REM
1000 REM ** Show instructions **
1001 REM
1050 BORDER 7: PAPER 7: INK 0: CLS
1060 RESTORE 8000
1070 PRINT AT 1,0: READ i$
1080 PRINT i$: READ i$: IF i$(1)<>"0" THEN GO TO 1080
1090 INK 0
1500 LET m$="Press any key to continue...": GO SUB 300

```



```

1000 REM
2000 REM ** Generate puzzle **
3000 REM
2050 RANDOMIZE
2060 DIM u(50)
2070 LET w1=1+INT (RND*50)
2080 IF u(w1)=1 THEN GO TO 2070
2090 LET u(w1)=1
2100 LET w2=1+INT (RND*50)
2110 IF u(w2)=1 THEN GO TO 2100
2120 LET u(w2)=1
2150 RESTORE 8600
2160 FOR i=1 TO w1: READ a$: NEX
T i
2170 RESTORE 8600
2180 FOR i=1 TO w2: READ b$: NEX
T i
2190 LET q#=a$: GO SUB 600: LET
a#=q#
2195 LET q#=b$: GO SUB 600: LET
b#=q#
2200 LET r#=b$: GO SUB 700: LET
b#=r#
2205 LET arev=0
2210 IF LEN a$>LEN b$ THEN LET x
#=a$: LET a#-b$: LET b#=x$: LET
arev=1
2250 REM * Merge a$ and b$ eventl
y
2260 LET p#=a$: LET q#=b$
2270 LET alo=INT (LEN a$/2+1): L
ET ahi=LEN a$-1
2280 LET blo=INT (LEN b$/2+1): L
ET bhi=LEN b$-1
2300 IF alo<blo THEN LET ovlo=bl
o-1
2310 IF alo=blo THEN LET ovlo=bl
o
2320 IF bhi>ahi THEN LET ovhi=ah
i+1
2330 IF bhi=ahi THEN LET ovhi=ah
i
2350 LET na=ovlo+INT (RND*(ovhi-
ovlo))
2360 LET nb=INT (na+0.5+RND)
2400 LET c#="": LET flag3=0
2450 LET r#=b$: LET p=nb
2460 GO SUB 2600
2470 LET b#=r$: LET nb=p
2480 LET r#=a$: LET p=na
2490 GO SUB 2600
2495 LET a#=r$: LET na=p
2500 IF na>0 OR nb>0 THEN GO TO
2400
2510 LET a#=p$: LET b#=q#
2550 GO TO 3000
2600 REM * Subroutine to take ch
unk of r#, add to c#
2620 LET lr=LEN r#
2625 IF lr=0 THEN RETURN
2626 IF p=1 THEN LET lc=LEN r#:
GO TO 2680
2630 IF lr>p+2 AND flag3=0 AND
RND<.2 THEN LET lc=3: LET flag3=
1: GO TO 2680
2635 IF (lr>p+3) OR (lr>p+2 AN
D flag3=1) THEN LET lc=2: GO TO
2680

```

```

2640 IF lr>=p+1 THEN LET lc=INT
(1.5+RND): GO TO 2680
2650 IF lr=p THEN LET lc=1
2680 LET c#=c#+r#( TO lc)
2690 LET r#=r#(lc+1 TO )
2700 LET p=p-1
2750 RETURN
2990 REM
3000 REM ** Display puzzle **
3001 REM
3050 PAPER 7: INK 0: CLS
3070 GO SUB 450
3080 PRINT AT 10,1:"Press 5 or 8
to move backwards"
3090 PRINT AT 11,1:"or forwards
along the word."
3100 PRINT AT 13,1:"Press 7 or 6
to move letters"
3110 PRINT AT 14,1:"up or down t
o separate words."
3120 PRINT AT 16,1:"Press ENTER
to try your words."
3130 LET l1=3: LET l2=4
3150 LET l#=c#
3160 LET u#=""
" ( TO LEN l#)
3170 LET c1=INT ((32-LEN l#)/2)-
1
3180 PRINT AT l1,c1+1: BRIGHT 1;
u#
3190 PRINT AT l2,c1+1: BRIGHT 1;
l#
3999 REM
4000 REM ** Get answer **
4001 REM
4050 LET c=1
4100 FOR i=l1 TO l2: PRINT AT i,
c1+c: FLASH 1: BRIGHT 1: OVER 1:
" ": NEXT i
4120 PAUSE 0: LET k#=INKEY#
4140 FOR i=l1 TO l2: PRINT AT i,
c1+c: FLASH 0: BRIGHT 1: OVER 1:
" ": NEXT i
4200 IF k#="5" AND c>1 THEN LET
c=c-1: GO TO 4100
4220 IF k#="8" AND c<LEN l# THEN
LET c=c+1: GO TO 4100
4240 IF k#="6" THEN LET l#(c)=c#
(c): LET u#(c)=" ": PRINT AT l1,
c1+c:u#(c):AT l2,c1+c:l#(c): GO
TO 4100
4260 IF k#="7" THEN LET l#(c)="
": LET u#(c)=c#(c): PRINT AT l1,
c1+c:u#(c):AT l2,c1+c:l#(c): GO
TO 4100
4280 IF k#=CHR# (13) THEN GO TO
4500
4300 BEEP .25,25
4320 GO TO 4100
4499 REM
4500 REM ** Check answer **
4501 REM
4510 LET ok=0
4520 LET r=1: LET s=1
4525 IF c>LEN u# THEN GO TO 4550
4530 IF u#(r)=" " THEN LET r=r+1
: GO TO 4525

```

```

4540 LET U$(s)=U$(r): LET s=s+1:
  LET r=r+1: GO TO 4525
4550 LET U#=U$( TO s-1)
4560 IF U#=a$ OR U#=b$ THEN LET
ok=1: GO TO 4700
4620 LET r#=U$: GO SUB 700: LET
U#=r#
4630 IF U#=a$ OR U#=b$ THEN LET
ok=1
4700 IF ok=0 THEN LET m$="WRONG
- you're all mixed up !": GO SUB
350: GO SUB 500: PAUSE 0: GO TO
4750
4700 IF arev=1 THEN LET r#=a$: G
O SUB 700: LET a#=r#
4710 LET a#=(a#+
") (1 TO LEN c#)
4711 IF arev=0 THEN LET r#=b$: G
O SUB 700: LET b#=r#
4712 LET b#=(b#+
") (1 TO LEN c#)
4715 PRINT BRIGHT 1;AT (1,c1+1);a
$;AT (2,c1+1);b$
4720 LET m$="All sorted out - We
ll done !": GO SUB 350: GO SUB 5
50: PAUSE 0
4750 LET m$="How about another g
o ? (Y/N)": GO SUB 300
4760 IF k#<>"y" THEN CLS : GO TO
8000
4770 IF ok=1 THEN GO TO 2000
4780 IF ok=0 THEN GO TO 3000
7000 REM
8000 REM ** Instruction data **
8001 REM
8010 DATA " MERGERS","
"
8020 DATA " A nice simple puzzle
- just "
8030 DATA "two ordinary English
words"
8040 DATA "involved."
8050 DATA " The trouble is, one
of them is"
8060 DATA "spelled backwards and
then the"
8070 DATA "two of them are mixed
up"
8080 DATA "together. We give yo
u the"
8090 DATA "mixed up words. Your
job is"
8100 DATA "Just to separate them
again."
8110 DATA " To help a bit, you c
an move"
8120 DATA "the letters apart on
the"
8130 DATA "screen until you thin
k you"
8140 DATA "have sorted out the t
wo words."
8150 DATA "then ask the computer
if you're"
8160 DATA "right. Now have a go
at the "
8170 DATA "first one..."

```

```

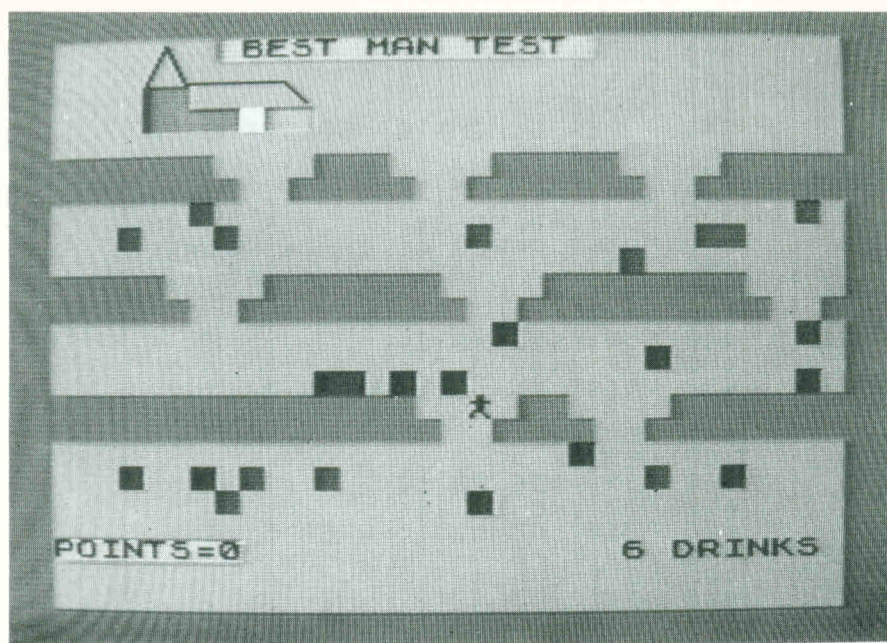
8180 DATA "@"
8599 REM
8600 REM * Coded words for puzzl
e
8601 REM
8605 DATA "OXDOB","NBSFO","UYMKU
","ZKODD","UYXOI"
8610 DATA "UYXDR","KBQEO","USUSD
","CDENI","QBKCC"
8620 DATA "UKGIOB","BOQKBN","MOX
DBO","ROKUDR","YLDKSY"
8630 DATA "MYUYEB","ZYUSMO","MYW
UYX","KDDKMU","UECHVO"
8640 DATA "USMOXMO","ZBSFKDO","C
DKDSYX","FORSMVO","ZEBZYCO"
8650 DATA "PSDXOCC","QWYDSYX","B
OFBOCO","ZKDSOXD","LKBQKSY"
8660 DATA "SXDOBOCD","BOUKDSYX",
"KDDSDENO","MYXDBKBI","ZYUSDSCM"
8670 DATA "QWZUYIOB","PSQAEQXD",
"LECSXOCC","NYMEWOXD","MROWSMKU"
8680 DATA "NSBQMDSYX","QWOBQOXMI
","COXDSWOXD","SWUONSKDO","RKZZS
XOCC"
8690 DATA "FQODDKLVQ","OXOBQODSM
","SWZYBDKXD","CELODKXMO","MRKKBK
MDOE"
8990 GO TO 9999
9000 INPUT "File to save ? "; LI
NE f#
9010 SAVE #"m";1)f#
9020 GO TO 9999
9100 INPUT "File to erase ? "; L
INE f#
9110 ERASE "m";1)f#
9120 GO TO 9999

```

*Author:* N. P. Bradley



# The Wedding



A game for the sober-minded only! You are the best man and you have to get Alan to the church to marry Katy. However, Alan has a few drinks to calm his nerves. The number of drinks is up to you, but beware, too many drinks and Alan's movements cannot be properly controlled by the cursor keys!

```

10 REM *****
20 REM * Program THE WEDDING *
30 REM *****
40 REM
50 REM
60 REM
70 REM G.A.Topping 11JULY 1983
80 REM
90 REM
100 REM @@@@@@@@@@@@@@@@@@@@@@@@@@@@@@
110 REM @@@@ Version 3 @@@@
120 REM @@@@@@@@@@@@@@@@@@@@@@@@@@@@@@
130 REM
140 REM 48K Sinclair Spectrum
210 INK 0
220 BORDER 5
230 PAPER 6
240 CLS
250 PRINT INK 0;AT 5,9;"DEDICAT
ED TO"

```

```

260 PRINT
270 PRINT
280 PRINT INK 0; AT 10,4;"Katy &
Hinton (The Bear)"
290 PRINT INK 0; AT 18,17;"G.A.T
opping ©" AT 21,20;"11 July 1983
" AT 21,1;"version 3"
300 BEEP .5,20
310 PAUSE 300
320 CLS
330 PAUSE 10
340 PAPER 0: INK 0: BORDER 0: C
L 0: PAUSE 20
350 FOR r=17 TO 21
360 REM
370 FOR c=0 TO 31
380 PRINT PAPER 4: INK 4; AT r,c
;"██"
390 NEXT c
400 NEXT r
410 FOR r=11 TO 19
420 FOR c=4 TO 7
430 PRINT AT r,c: PAPER 2: INK
2;"██"
440 NEXT c
450 NEXT r
460 FOR r=15 TO 19
470 FOR c=8 TO 25
480 PRINT AT r,c: PAPER 5: INK
5;"██"
490 NEXT c
500 NEXT r
510 INK 8
520 PLOT 32,87: DRAW 14,64: DRA
W 17,-84
530 PLOT INK 8;64,71: DRAW 105,
0
540 DRAW 32,-21
550 NEXT r
560 INK 2
570 FOR r=0 TO 20 STEP 2
580 CIRCLE 151,120,r
590 NEXT r
600 PRINT INK 0: PAPER 7: FLASH
1: BRIGHT 1; AT 17,11;"THE WEDDI
NG"
610 PRINT INK 7; AT 19,5;"██"
620 POKE USA "A"+0,BIN 000111000
630 POKE USA "A"+1,BIN 000111000
640 POKE USA "A"+2,BIN 011111110
650 POKE USA "A"+3,BIN 000111000
660 POKE USA "A"+4,BIN 000111000
670 POKE USA "A"+5,BIN 001010000
680 POKE USA "A"+6,BIN 010001000
690 POKE USA "A"+7,BIN 010000100
700 PRINT PAPER 8: INK 0; AT 19,
27;"★"
710 BEEP 1,20
720 PRINT PAPER 8: OVER 1; AT 19,
27;"★"
730 PAPER 8
740 FOR Z=25 TO 2 STEP -1
750 PRINT AT 20,Z;"★ ": BEEP .1
Z
760 NEXT Z
770 PAPER 6
780 PAUSE 30
790 FOR Z=18 TO 10 STEP -2

```

```

800 PRINT BRIGHT 1; FLASH 1; PA
PER 7; INK 0; AT 2,2; "?"
810 NEXT Z
820 NEXT Z
830 PAUSE 10
840 BEEP .5,0: PAUSE 2: BEEP .5
,-10
850 PAUSE 100
860 PRINT INK 0: PAPER 7; BRIGH
T 1; AT 2,9; "PRESS & HOLD ANY KE
Y "
870 BEEP 1,25: PAUSE 400: BEEP
.5,30
880 IF INKEY#="" THEN GO TO 340
890 CLS
900 PRINT INK 0: PAPER 7; BRIGH
T 1; AT 12,8; "release the KEY"
910 BEEP 1,30
920 IF INKEY#<>"" THEN GO TO 89
0
930 CLS
1020 LET GREATEST=0
1070 GO SUB 4050: REM SINIT
1080 PAPER 5: BORDER 5: PAUSE 10
1090 PAPER 7: INK 0
1100 PRINT AT 9,9; "BEST MAN TEST
"
1110 BEEP .3,10
1120 PAUSE 100
1130 BEEP .3,15
1140 GO SUB 4050: REM SINIT
1150 GO SUB 3550: REM INSTNS
1160 GO SUB 4050: REM SINIT
1170 GO SUB 3450: REM PICTURE
1180 LET GAP=1
1190 GO SUB 3280: REM HOLE
1200 LET GAP=2
1210 GO SUB 3280: REM HOLE
1220 LET GAP=3
1230 GO SUB 3280: REM HOLE
1240 GO SUB 1950: REM PRESENTS
1250 PRINT PAPER 5; INK 0; AT 0,7
; "BEST MAN TEST "
1260 BEEP 1,40
1270 LET MANA=19: LET MANC=5
1280 PRINT PAPER 6; INK 0; AT MAN
A,MANC; "*"
1290 GO SUB 2250: REM RUN
1300 IF DEAD=1 THEN GO TO 1520:
REM SINGLEPNTS
1310 GO TO 1360
1320 REM *****DOUBLEPNTS*****
1370 PRINT AT 8,3; "CONGRATULATIO
NS YOU MADE IT"
1380 PAUSE 200
1390 FOR B=-5 TO 20 STEP 2
1400 BEEP .2,5
1410 NEXT B
1420 LET 3$=" BONUS "
1430 LET TOTAL=TOTAL*2
1440 GO SUB 1790: REM SCOREBOARD
1450 GO TO 1070
1520 REM *****LOST*****
1530 PRINT BRIGHT 1; PAPER 7; FL
ASH 1; INK 4; AT 2,14; "POOR ALAN
& KATY"
1540 BEEP 2,-5: BEEP 1,5: BEEP 2
,-5

```



```

1550 LET S#="NO BONUS"
1560 GO SUB 1790: REM SCOREBOARD
1570 GO TO 1070
1710 REM +++++SUBROUTINES+++++
1790 REM ****SCOREBOARD*****
1800 GO SUB 4050: REM SINIT
1810 PRINT BRIGHT 1; PAPER 4; AT
3,12; S#
1820 PRINT : PRINT : PRINT : PRI
NT : PRINT : PRINT :
1830 PRINT AT 7,11;"YOUR SCORE="
TOTAL: PRINT : PRINT : PRINT :
PRINT : PRINT : PRINT : PRINT :
1840 IF TOTAL<GREATEST THEN PRIN
T PAPER 5; BRIGHT 1;"THE HIGHEST
SCORE STANDS AT ";GREATEST: PRI
NT PAPER 7; AT 20,9;" PRESS ANY K
EY ": PAUSE 500: RETURN
1850 IF TOTAL=GREATEST THEN PRIN
T FLASH 1; BRIGHT 1; PAPER 4; IN
K 7;"YOUR SCORE EQUALS THE GREAT
EST": BEEP .5,30: PRINT PAPER 7;
INK 0; AT 20,9;" PRESS ANY KEY "
: PAUSE 500: RETURN
1860 REM
1870 REM
1880 REM **NEW LARGEST SCORE**
1890 LET GREATEST=TOTAL
1900 PRINT BRIGHT 1; PAPER 7; FL
ASH 1;"YOU HAVE THE LARGEST SCOR
E TODAY": BEEP .5,30: PRINT PAPER
7; AT 20,9;" PRESS ANY KEY ": P
AUSE 500: RETURN
1960 REM *****PRESENTS*****
1970 LET N=3
1980 LET SHADE=2
1990 LET ROW=5
2000 GO SUB 2120
2010 LET SHADE=1
2020 LET ROW=10
2030 GO SUB 2120
2040 LET N=4
2050 LET SHADE=2
2060 LET ROW=15
2070 GO SUB 2120
2080 LET SHADE=1: LET N=5
2090 LET ROW=15
2100 GO SUB 2120
2110 RETURN : REM TO MAIN PROG
2120 FOR X=1 TO N
2130 LET COL=INT (RAND*31)
2140 LET PRESROW=ROW+1+INT (RAND*
3)+1
2150 PRINT BRIGHT 1; PAPER SHADE
: INK SHADE; AT PRESROW,COL;"■"
2160 NEXT X
2170 RETURN
2250 REM *****RUN*****
2260 GO SUB 2440: REM GETKEY
2270 GO SUB 3040: REM DRUNK
2280 GO SUB 2590: REM RANGECHECK
2290 IF RANGEOUT=1 THEN GO TO 22
50: REM RUN
2300 GO SUB 2710: REM MOVEMAN
2310 GO SUB 2820: REM HEDGEHIT
2320 IF GOTPRES=1 THEN PRINT PAP
ER 6; INK 0; AT MANR,MANC;"X": LE
T GOTPRES=0
2330 IF DEAD=1 THEN GO TO 2370

```



```

2340 IF WON=1 THEN GO TO 2370
2350 GO TO 2250: REM RUN
2360 LET DEAD=0
2370 RETURN: REM TO MAIN PROG
2440 REM *****GETKEY*****
2450 LET VERT=0: LET HORZ=0
2460 IF INKEY$="" THEN GO TO 2460
2470 LET A$=INKEY$
2480 IF A$="6" THEN LET VERT=1
2490 IF A$="7" THEN LET VERT=-1
2500 IF A$="5" THEN LET HORZ=-1
2510 IF A$="8" THEN LET HORZ=1
2520 RETURN
2590 REM *****RANGE CHECK*****
2600 LET RANGEOUT=0
2610 IF MANC+HORZ<0 OR MANC+HORZ
>31 THEN LET RANGEOUT=1
2620 IF MANR+VERT>21 OR MANR+VER
T<0 THEN LET RANGEOUT=1
2630 RETURN
2700 REM *****MOVE MAN*****
2710 PRINT PAPER 8: OVER 1: AT MA
NR,MANC:"↑"
2720 LET MANR=MANR+VERT: LET MAN
C=MANC+HORZ
2730 PRINT PAPER 8: INK 0: AT MAN
R,MANC:"↑"
2740 BEEP .08,0
2750 RETURN
2820 REM *****HEDGE HIT*****
2830 LET WON=0: LET DEAD=0: LET
GOTPRES=0
2840 LET PAPERCOL=INT ((ATTR (MA
NR,MANC)-INT (ATTR (MANR,MANC)/6
4)*64)/8)
2850 IF PAPERCOL=6 THEN GO TO 29
30: REM YELLOW
2860 IF PAPERCOL=4 THEN GO TO 29
20: REM GREEN
2870 IF PAPERCOL=2 THEN GO TO 29
40: REM RED PRESENT 20 PNTS
2880 IF PAPERCOL=1 THEN GO TO 29
50: REM BLUE PRESENT 10 PNTS
2890 IF PAPERCOL=7 THEN GO TO 29
60: REM WHITE
2900 LET DEAD=99: REM OTHER COLO
UR?
2910 GO TO 2970
2920 LET DEAD=1: GO TO 2970: REM
YOUR DEAD
2930 LET DEAD=0: GO TO 2970: REM
YOUR STILL ALIVE
2940 LET GOTPRES=1: LET DEAD=0:
BEEP 1,30: LET TOTAL=TOTAL+20*TI
PSY: PRINT PAPER 5: AT 21,0:"POIN
TS=";TOTAL: GO TO 2970
2950 LET GOTPRES=1: LET DEAD=0:
BEEP 1,30: LET TOTAL=TOTAL+10*TI
PSY: PRINT PAPER 5: AT 21,0:"POIN
TS=";TOTAL: GO TO 2970
2960 LET DEAD=0: LET WON=1
2970 RETURN
3040 REM *****DRUNK*****
3050 LET R=INT (RND*10): REM 0
TO 9
3060 IF R<TIPSY THEN GO TO 3080
3070 GO TO 3210: REM NOT DRUNK
3080 LET STAGGERPLANE=INT (RND*2

```

```

)+1
3090 IF STAGGERPLANE=2 THEN GO TO
0 3150: REM HORZ PLANE
3100 LET WAY=INT (RND*2)+1
3110 IF WAY=2 THEN GO TO 3140
3120 LET VERT=VERT-1
3130 GO TO 3210
3140 LET VERT=VERT+1
3150 GO TO 3210
3160 LET WAY=INT (RND*2)+1
3170 IF WAY=2 THEN GO TO 3200
3180 LET HORZ=HORZ+1
3190 GO TO 3210
3200 LET HORZ=HORZ-1
3210 RETURN : REM BACK TO RUN
3280 REM *****HOLE*****
3290 IF GAP=1 THEN GO TO 3330
3300 IF GAP=2 THEN GO TO 3350
3310 LET ROW=5
3320 GO TO 3350
3330 LET ROW=15
3340 GO TO 3350
3350 LET ROW=10
3360 FOR N=1 TO 3: LET COL=INT (
RND*(29))
3370 PRINT PAPER 6; INK 6;AT ROW
, COL;"██████"
3380 PRINT PAPER 6; INK 6;AT ROW
+1,COL+1;"███"
3390 NEXT N
3400 RETURN
3450 REM *****PICTURE*****
3470 RESTORE 3480
3480 DATA 15,10,5,99
3490 READ R
3500 IF R=99 THEN GO TO 3570
3510 FOR R=R TO R+1
3520 FOR C=0 TO 31
3530 PRINT INK 4; PAPER 4;AT R,C
;"███"
3540 NEXT C
3550 NEXT R
3560 GO TO 3490
3570 BORDER 4:
3580 PRINT PAPER 3; INK 3;AT 2,4
;"██████"
3590 PRINT PAPER 3; INK 3;AT 3,4
;"██████"; BRIGHT 1; FLASH 1; PAPER
R 7; INK 0;"███"; PAPER 3; INK 3;"
██████"
3600 PLOT INK 8;32,159: DRAW 7,1
4: DRAW PAPER 8;7,-13: DRAW 32,0
: DRAW 7,-7
3610 REM
3620 PRINT PAPER 6; INK 0;AT 21,
23;TIPSY;" DRINKS"
3630 LET TOTAL=0: PRINT PAPER 5;
AT 21,0;"POINTS=";TOTAL
3640 RETURN
3690 REM *****INSTNS*****
3700 GO SUB 4050: REM SINIT
3710 PRINT PAPER 5; INK 0;AT 1,1
0;"INSTRUCTIONS"
3720 PRINT AT 5,3;"You are the B
est Man."
3730 PRINT "Alan has to get to c
hurch."
3740 PRINT "Otherwise KATY will
get""cross with you."

```

```

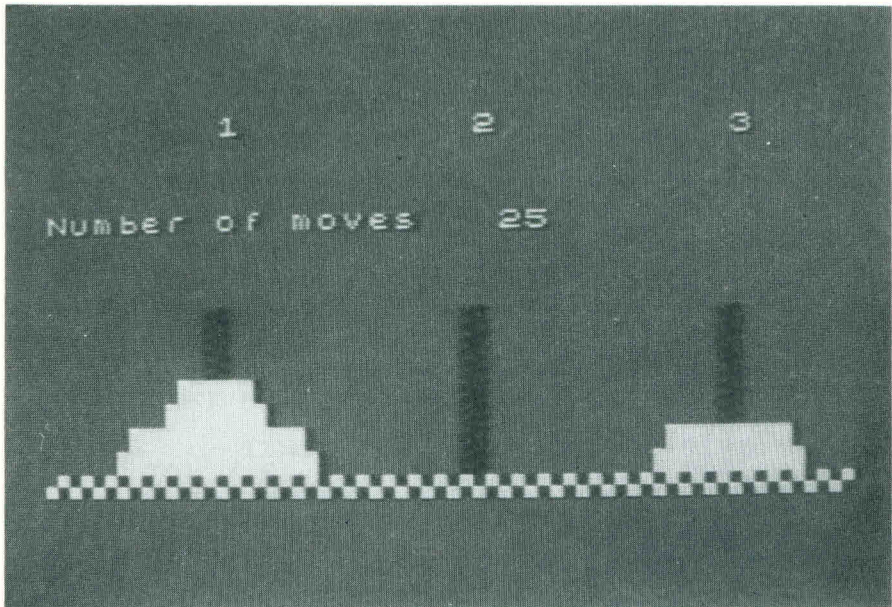
3750 PRINT AT 10,1;"THE "; BRIGHT 1; PAPER 4;"ARROW"; BRIGHT 0;
PAPER 6;" KEYS 5,6,7,&8 CONTROL"
3760 PRINT AT 11,1;"ALANS DIRECT
ION"
3770 PRINT
3780 PRINT "However Alans had a
little"
3790 PRINT "drink to calm his ne
rves."
3800 PRINT
3810 PRINT "How much is up to yo
u"
3820 PRINT "0 to 10 DRINKS!!!!"
: PRINT : PRINT
3830 PRINT "GIVE A NUMBER 0-10
"; FLASH 1;"PRESS ENTER"
3840 INPUT A$; BEEP .2,30
3850 FOR N=1 TO LEN A$
3860 LET D=CODE A$(N)
3870 IF D<48 OR D>57 THEN GO TO
3840
3880 NEXT N
3890 LET TIPSYP=INT VAL A$
3900 IF TIPSYP<0 OR TIPSYP>10 THEN
GO TO 3840
3910 GO SUB 4050: REM SINIT
3920 PRINT PAPER 5;AT 4,12;" OT
E "; PRINT : PRINT : PRINT INK 0
;"Presents are shown on route"
PAPER 2; INK 7; BRIGHT 1;"RED";
PAPER 6; INK 0; BRIGHT 0;" scor
es 20 times the DRINKS"
3930 PRINT : PRINT PAPER 5; BRIG
HT 1;"BLUE"; BRIGHT 0; PAPER 6;"
scores 10 times the DRINKS"
3940 PRINT : PRINT : PRINT : PRI
NT BRIGHT 1;"Church arrival give
s you---"
*****DOUBLE POI
NTS*****
3950 PRINT : PRINT
3960 PRINT : PRINT PAPER 7; FLAS
H 1;AT 21,6;" PRESS ANY KEY "
3970 PAUSE 65000
3980 BEEP .3,40
3990 PAUSE 40
4000 RETURN
4050 REM *****SINIT*****
4070 CLS : PAPER 6; INK 0; BORDE
R 6; CLS : RETURN
9900 LET s=PEEK USR "u"+256*PEEK
(USR "u"+1): POKE s+1,1
9901 LET x=s+2818
9902 LET a=s+99
9903 GO SUB 9914: PRINT AT 21,0;
9905 RANDOMIZE USR (PEEK USR "u"
+256*PEEK (USR "u"+1)+101)
9906 INPUT X: PRINT X
9908 LET a=PEEK USR "u"+256*PEEK
(USR "u"+1)+2
9909 GO SUB 9914: GO TO 9905
9911 INPUT Z$
9912 PRINT """";Z$;""""
9913 GO TO 9905
9914 POKE a+1,INT (X/256)
9915 POKE a,X-256*INT (X/256)
9916 RETURN

```

Author: G. A. Topping



# The Towers of Hanoi



This is a classic puzzle the object of which is to move golden discs from one pole to another. The discs are different sizes and at no time may a disc sit upon a smaller one. This program also provides the solution and presents it on the screen.

```

10 REM "HANOI". The towers of
Hanoi. © R.H.DOUGHTY.24.6.84.
12 PRINT AT 10,10;"PLEASE WAIT
"; GO SUB 780: REM Generate arra
y for automatic solution.
15 PAPER 1: BORDER 1: INK 6
18 DIM r(200): REM array to st
ore moves of the 'manual' soluti
on
20
21 DIM d$(8,8): REM String arr
ay of 7 sets of standard graphic
s, representing discs, + 1 blank
string.
22 LET d$(1) = "
23 LET d$(2) = "
24 LET d$(3) = "
25 LET d$(4) = "
26 LET d$(5) = "
27 LET d$(6) = "
28 LET d$(7) = "
29 LET d$(8) = "

```



```

30 RESTORE 32: REM 2 graphics
to draw the poles.
31 FOR n=1 TO 2: READ g$: FOR
f=0 TO 7: READ a: POKE USR g#+f,
a: NEXT f: NEXT n
32 DATA "a",9,9,15,15,9,9,15,1
5,"b",240,240,144,144,240,240,14
4,144
34 CLS : PRINT AT 0,6:"THE TOW
ERS OF HANOI";AT 1,3:"Long ago t
he priests of the temple of Han
oi were presented with 100 gold
en discs in descen-ding order of
size."
35 PRINT AT 5,3:"Each had a ce
ntral hole for threading onto o
ne of three pol-es of ebony inse
t with sapphires and set in the t
emple floor."
36 PRINT AT 9,3:"Starting with
all the discs on the first pol
e, with the smallest at the
top, the priests were charged wit
h transferring one disc each da
y, with the aim of getting all t
he discs on to the third pole."
37 PRINT AT 16,3:"The second p
ole could be used as required fo
r intermediate moves, but no d
isc must ever sit above a smalle
r one."
38 PRINT AT 20,0:"PRESS ANY KE
Y TO CONTINUE"
39 PAUSE 0: CLS
40 PRINT AT 0,3:"Since the tot
al no. of moves required for 100
discs is in excess of 1,000,
000,000,000,000,000,000,000,000,
000,000 - the work is still pr
oceeding!"
42 PRINT AT 6,3:"This game red
uces the no. of discs to 7 which
makes the tot- al no. of moves
127, and it does the heavy work
of moving the gold discs to in
structions."
44 PRINT AT 12,3:"It will even
give you a solu-tion while you
watch, or replay YOUR solution,
complete with any mistakes!"
46 PRINT AT 17,3:"PRESS ANY KE
Y TO CONTINUE"
48 PAUSE 0: CLS
49
50
51 REM Demonstrate short cut m
ethod.
52 PRINT AT 10,0:"Of course -
if you were allowed to do it lik
e this, it would be easy!"
54 PAUSE 200: CLS
58 FOR n=10 TO 16: PRINT : PAP
ER 1: INK 0;AT n,6;" ";AT n,16;
" ";AT n,26;" ";NEXT n
59 FOR n=0 TO 31: PRINT AT 17,
n;" ";NEXT n
60 FOR n=1 TO 7: PRINT AT n+9,
3;d$(n): NEXT n: PAUSE 10

```

```

62 FOR n=1 TO 7: PRINT AT n+9,
3;d$(8);AT n+9,6; PAPER 1; INK 0;
;"█": PRINT AT 17-n,13;d$(n); P
AUSE 20; NEXT n: PAUSE 20
64 FOR n=1 TO 7: PRINT AT n+9,
13;d$(8);AT n+9,16; PAPER 1; INK
0;"█": PRINT AT 17-n,23;d$(8-n
): PAUSE 20; NEXT n: PAUSE 20
66 PAUSE 150: CLS
68 PRINT AT 10,0;"But you're n
ot-That's CHEATING!": PAUSE 200:
CLS
70 PRINT "The following is the
series of numbers which gives
the automat-ic solution": GO SUB
890
72
78 CLS : PRINT AT 4,0;" You ha
ve three options:-";AT 6,0;"1)
An automatic solution; you jus
t watch ";AT 8,0;"2) You can m
ove the discs for your own solut
ion.";AT 10,0;"3) Having achie
ved a manual solution you can
replay it com- plete with any fa
lse moves."
80 PRINT AT 14,0;"For 1) Key a
and ENTER";AT 16,0;"For 2) Key
m and ENTER";AT 18,0;"For 3) Key
r and ENTER"
81
85 INPUT m$: CLS
87 IF m$="m" THEN DIM r(200)
90 IF m$<>"m" AND m$<>"a" AND
m$<>"r" THEN GO TO 78
95
100
110 REM Print poles
115 FOR n=10 TO 16: PRINT AT n,
6; PAPER 1; INK 0;"█": NEXT n
120 FOR n=10 TO 16: PRINT AT n,
16; PAPER 1; INK 0;"█": NEXT n
125 FOR n=10 TO 16: PRINT AT n,
26; PAPER 1; INK 0;"█": NEXT n
130 FOR n=0 TO 31: PRINT AT 17,
n;"█": NEXT n
195 FOR n=10 TO 16
200 PRINT AT n,3;d$(n-9)
205 NEXT n
210 PRINT AT 2,7;"1";AT 2,17;"2
";AT 2,27;"3"
215 PRINT AT 6,0;"Number of mov
es"
220 REM Let a, b, c, be the num
bers of the current print lines
of the top discs in cols. 1, 2,
3, respectively.
225 DIM a$(8,8): DIM b$(8,8): D
IM c$(8,8):
230 REM Initialise contents of
stacks; all discs on stack a.
235 FOR n=1 TO 8: LET a$(n)=d$(
n): NEXT n
238 FOR n=1 TO 8: LET b$(n)=d$(
8): NEXT n
240 FOR n=1 TO 8: LET c$(n)=d$(
8): NEXT n
242 LET a=10: LET b=17: LET c=1
7: LET k=0: REM Initialise addre

```

```

sses of top discs, and counter.
260 IF c=10 THEN GO TO 264
261 GO TO 271
264 BEEP .2,7: BEEP .5,12: BEEP
.2,7: BEEP 1,12: INPUT "ANOTHER
GO ? y/n & ENTER":g$
266 IF g$="y" THEN GO TO 269
267 IF g$="n" THEN CLS : PRINT
AT 10,4;"O.K.-----GOOD-BYE.": P
AUSE 400: GO TO 34
269 CLS : GO TO 78
271 IF m$="r" THEN GO TO 276
272 IF m$="a" THEN GO TO 280
273 INPUT "To move disc, key th
e 'from' and 'to' numbers, and E
NTER together. To return to men
u, key 9 and ENTER":p
274 IF (p<>12 AND p<>13 AND p<>
21 AND p<>23 AND p<>31 AND p<>32
AND p<>9) THEN GO TO 273
275 LET k=k+1: LET r(k)=p: GO T
O 284
276 LET k=k+1: LET p=r(k):
277 IF k=1 AND p=0 THEN GO TO 3
65
278 GO TO 284
279 STOP
280 LET k=k+1: LET p=w(k)
284 PRINT AT 6,18;k: GO TO 400
350 PRINT AT 8,0: FLASH 1;"ATTE
MPT TO CHEAT COUNTS 1 MOVE"
355 PAUSE 120: PRINT AT 8,0;"
360 GO TO 271
365 REM No moves-no replay subr
outine from 277
366 PRINT AT 8,0;"NO MOVES YET-
SO NO REPLAY!"
367 PAUSE 120: CLS : GO TO 78
380
385
390 REM Routine for moving disc
s.
400 IF p=12 THEN LET x=a: LET y
=b: LET sf=3: LET pf=6: LET st=1
3: LET pt=16: LET x#=a$(a-9): LE
T y#=b$(b-9): GO SUB 500: LET a=
x: LET b=y: LET b#(b-9)=y#
410 IF p=13 THEN LET x=a: LET y
=c: LET sf=3: LET pf=6: LET st=2
3: LET pt=26: LET x#=a$(a-9): LE
T y#=c$(c-9): GO SUB 500: LET a=
x: LET c=y: LET c$(c-9)=y#
420 IF p=21 THEN LET x=b: LET y
=a: LET sf=13: LET pf=16: LET st
=3: LET pt=6: LET x#=b$(b-9): LE
T y#=a$(a-9): GO SUB 500: LET b=
x: LET a=y: LET a$(a-9)=y#
430 IF p=23 THEN LET x=b: LET y
=c: LET sf=13: LET pf=16: LET st
=23: LET pt=26: LET x#=b$(b-9):
LET y#=c$(c-9): GO SUB 500: LET
b=x: LET c=y: LET c$(c-9)=y#
440 IF p=31 THEN LET x=c: LET y
=a: LET sf=23: LET pf=26: LET st
=3: LET pt=6: LET x#=c$(c-9): LE
T y#=a$(a-9): GO SUB 500: LET c=
x: LET a=y: LET a$(a-9)=y#
450 IF p=32 THEN LET x=c: LET y

```



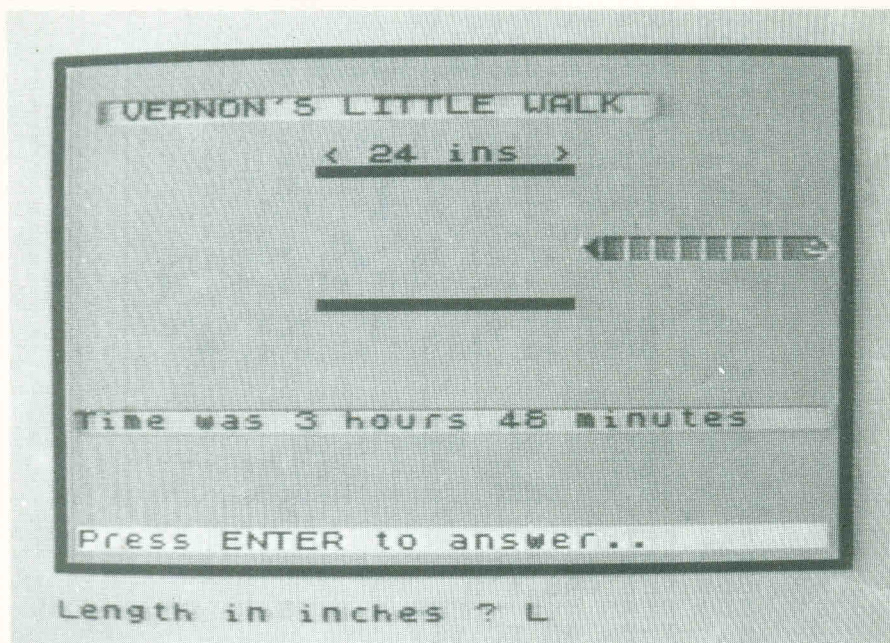
```

=b: LET sf=23: LET pf=26: LET st
=13: LET pt=16: LET x#=c#(c-9):
LET y#=b#(b-9): GO SUB 500: LET
c=x: LET b=y: LET b#(b-9)=y#
460 IF p=9 THEN GO TO 34
470 IF p=0 THEN GO TO 34
480 GO TO 250
500 IF y>16 THEN GO TO 530
510 IF x>16 THEN GO TO 271
520 IF x#>y# THEN GO TO 350: RE
M Cheat routine
530 LET t#=x#
560 PRINT AT x,sf;d#(8)
580 LET x=x+1
570 FOR n=x-1 TO 10 STEP -1
580 PRINT AT n,sf;t#
590 PAUSE 2
600 PRINT AT n,sf;d#(8)
610 PRINT AT n,pf: PAPER 1: INK
0: " "
620 NEXT n
630 FOR n=sf TO st STEP ((st>sf
)-(st<sf))
640 PRINT AT 9,n;t#
650 PAUSE 2
660 PRINT AT 9,n;d#(8)
670 NEXT n
680 FOR n=10 TO y-2
690 PRINT AT n,st;t#
700 PAUSE 2
710 PRINT AT n,st;d#(8)
720 PRINT AT n,pt: PAPER 1: INK
0: " "
730 NEXT n
740 PRINT AT y-1,st;t#
750 LET y=y-1
760 LET y#=t#
770 RETURN
780 DIM w(127): REM Generate nu
mber array for 'automatic' solut
ion.
790 DATA 13,12,32,13,21,23,13
800 RESTORE 790: FOR n=1 TO 7:
READ w(n): NEXT n
810 FOR c=1 TO 7: LET k=0:
815 LET i=INT (w(c)/10): LET j=
w(c)-10*i
818 FOR r=0 TO 15
820 LET w(c+8*r)=10*(i-k)+j-k
825 LET k=k+1
830 IF i-k=0 THEN LET i=i+3:
832 IF j-k=0 THEN LET j=j+3
835 NEXT r: NEXT c
840 FOR n=0 TO 14
850 LET w(8+8*n)=w(2*n+2): NEXT
n
860 RETURN
870 REM print out number array
for automatic solution.
890 PRINT : FOR n=1 TO 127: PRI
NT w(n): " "; NEXT n
900 PRINT AT 21,0: "Press any ke
y to continue"
910 PAUSE 0: CLS : RETURN

```

*Author:* R. H. Doughty

# The Worm's Progress



One day, a little worm called Vernon was out for a crawl. He found a pipe and, out of curiosity, crawled through it. Out of curiosity, you time him from the moment his nose first entered the pipe to the moment his tail left it. Then you measured the pipe. After asking Vernon how fast he was crawling, you were able to tell how long a worm he was. Well, weren't you?...

```

1 REM *****
2 REM
3 REM      WORM
4 REM
5 REM *****
6 REM
100 DIM M$(30)
210 RANDOMIZE
265 GO TO 1000
300 REM ** Message **
310 PRINT AT 20,1: BRIGHT 1: FL
ASH 1: PAPER 5: INK 0:M$
320 GO SUB 400
330 IF INKEY#(">") THEN GO TO 33
0
335 LET K#=INKEY#: IF K#="" THE
N GO TO 335
337 IF K#="A" AND K#("<") THEN
LET K#=CHR# (CODE (K#)-32)

```

```

340 PRINT AT 20,1;"
345 RETURN
350 REM ** Instruction **
360 PRINT AT 20,1; BRIGHT 1; PA
PAPER 5; INK 0;I#
365 RETURN
400 REM ** Pips **
410 FOR i=1 TO 2
420 BEEP 0.05,50: PAUSE 2
430 NEXT i
440 RETURN
450 REM ** Draw border **
460 PRINT AT 0,0;"█"; FOR i=1 T
O 20: PRINT AT i,0;"█"; NEXT i
465 PRINT AT 21,0;"█"; FOR i=1
TO 30: PRINT AT 21,i;"█"; NEXT i
470 PRINT AT 21,31;"█"; FOR i=2
0 TO 1 STEP -1: PRINT AT i,31;"█"
"; NEXT i
475 PRINT AT 0,31;"█"; FOR i=30
TO 1 STEP -1: PRINT AT 0,i;"█";
NEXT i
485 RETURN
500 REM ** Raspberry **
510 BEEP 1,16: BEEP 1,12
520 BEEP .5,25: FOR X=23 TO 17
STEP -0.5: BEEP .1,X: PAUSE 2: N
EXT X
545 RETURN
550 REM ** Congratulations **
555 RESTORE 570
560 READ n,p: BEEP n*0.25,p: IF
n>0 THEN GO TO 560
570 DATA 1,12,1,14,1,16,2,17,2,
5,12
572 DATA 1,17,1,16,1,17,2,19,2,
5,14
574 DATA 1,14,1,16,1,17,1,5,21,
0,5,10
576 DATA 1,19,1,17,1,17,1,16,1,
14,1,16,3,17
580 DATA 0,0
590 RETURN
6000 REM
700 REM ** Double beep **
701 REM
710 BEEP .1,12: PAUSE 10: BEEP
.1,16: PAUSE 8
720 RETURN
8000 REM
1000 REM ** Show instructions
1001 REM
1040 BORDER 5: PAPER 6: INK 0: C
LS
1050 RESTORE 8000
1060 PRINT AT 2,0;
1070 READ i$: IF i$(1)="@" THEN
GO TO 1080
1080 PRINT i$
1090 GO SUB 700
1100 GO TO 1070
1200 LET m$="Press key to see Ve
rnon...": GO SUB 800
1900 REM
2000 REM ** Generate puzzle **
2001 REM
2050 RANDOMIZE
2120 LET lw=5+INT (RND*45)

```



```

2130 LET in=5*(1+INT (RND*6))
2170 LET tm=50+12*(INT (RND*40))
2180 LET lp=(in*tm/50)-lw
2190 IF lp<=0 THEN GO TO 2120
2200 REM
2200 REM ** Display puzzle **
2201 REM
2250 CLS : GO SUB 450
2260 PRINT AT 2,2; PAPER 5;" VER
NON'S LITTLE WALK "
2300 RESTORE 3200
2310 FOR i=0 TO 7: READ byte: PO
KE USR "a"+i,byte: NEXT i
2320 FOR i=0 TO 7: READ byte: PO
KE USR "b"+i,byte: NEXT i
2330 FOR i=0 TO 7: POKE USR "c"+
i,127: NEXT i
2350 DIM a$(10)
2360 LET b#=""
2370 LET c#=""
2380 LET d#=""
2390 PRINT AT 5,11;"
2410 PRINT AT 10,11;"
2420 PRINT AT 4,11;"< "lp;" ins
>"
2450 INK 1+INT (RND*4)
2460 DIM m$(30): PRINT AT 7,1;m$
(AT 8,1)m$
2465 FOR i=12 TO 20: PRINT AT i,
1;m$: NEXT i
2470 PRINT AT 8,1;b$
2480 PRINT AT 7,1;"<----?---->"
2490 PAUSE 250
2500 PRINT AT 15,1; FLASH 1; PAP
ER 3; INK 0;" Speed is ";in;" in
ches per hour"
2510 FOR c=1 TO 20
2520 PRINT AT 8,c;d$:AT 7,c;c$
2530 BEEP .1,12: PAUSE 10
2540 PRINT AT 8,c+1;b$:AT 7,c+1;
a$
2550 BEEP .1,15: PAUSE 10
2560 NEXT c
2570 LET hours=INT (tm/60)
2580 LET mn=tm-hours*60
2590 LET h#=" hour ": IF hours>1
THEN LET h#=" hours "
2600 PRINT AT 15,1; PAPER 5; INK
0;"
2650 PRINT AT 15,1; PAPER 5; INK
0;"Time was ";hours;h#;
2660 IF mn>0 THEN PRINT PAPER 5;
INK 0;mn;" minutes "
2670 LET m#="Press ENTER to answ
er.": GO SUB 350
2680 PAUSE 250: IF INKEY#="" THE
N GO TO 2680
2690 INK 0
2700 REM
2710 REM ** Get answer **
2720 REM
2750 INPUT "Length in inches ? "
: LINE r$
2760 IF r#="" THEN GO TO 2750
2770 LET ok=1
2780 FOR i=1 TO LEN r$: IF r$(i)
<"0" OR r$(i)>"9" THEN LET ok=0
2790 NEXT i

```

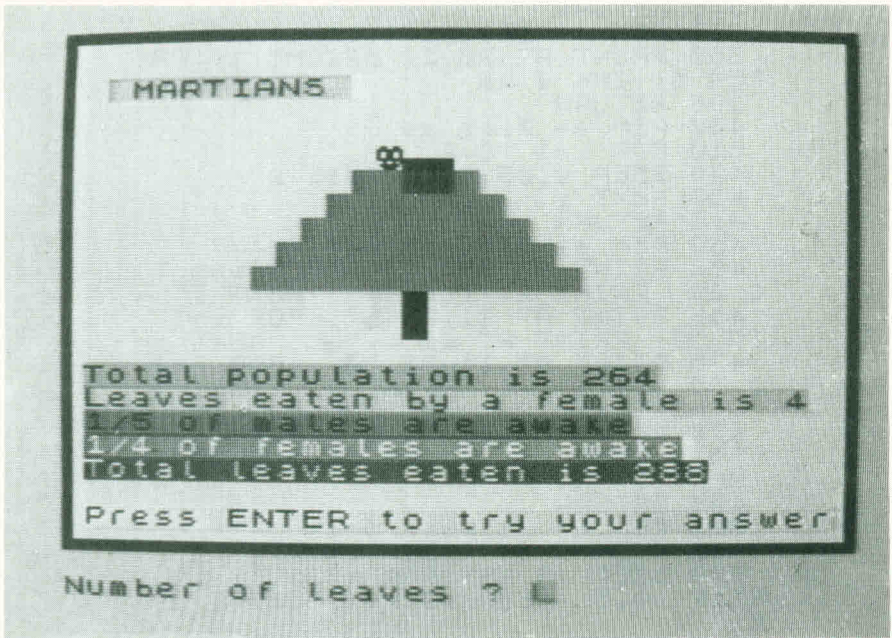
```

4160 IF ok=0 THEN GO TO 4050
4150 LET answer=VAL r#
4160 LET ok=0
4170 IF answer=1w THEN LET ok=1
4400 REM
4500 REM ** Check answer **
4501 REM
4550 IF ok=0 THEN LET m$="No ! V
ernon is very offended !"; GO SU
B 350: GO SUB 500: PAUSE 0
4570 IF ok=1 THEN LET m$="Yes -
'Thank you!' says Vernon"; GO SU
B 350: GO SUB 550: PAUSE 0
4580 LET m$="Do you want another
go ?"; GO SUB 300
4590 IF k#<>"y" THEN PAPER 7: IN
K 0: CLS : GO TO 9999
4600 IF ok=0 THEN GO TO 3000
4610 IF ok=1 THEN GO TO 2000
7000 REM
8000 REM ** Instruction data **
8001 REM
8010 DATA "      THE WORM'S PROGR
ESS" " "
8020 DATA "One day, a little wor
m called"
8030 DATA "Vernon was out for a
walk, er"
8040 DATA "crawl. He found a pi
pe and"
8050 DATA "out of curiosity, cra
wled"
8060 DATA "through it. Out of c
uriosity,"
8070 DATA "you timed him from th
e moment"
8080 DATA "his nose entered the
pipe to the"
8090 DATA "moment his tail left
it. Then"
8100 DATA "you measured the pipe
. After"
8110 DATA "asking Vernon how fas
t he was"
8120 DATA "crawling, you were ab
le to tell"
8130 DATA "how long a worm he wa
s." " "
8140 DATA "Well, weren't you ?"
8150 DATA "©"
8200 REM ** UDG data **
8210 DATA 248,252,238,255,191,19
0,252,248
8220 DATA 1,3,7,31,15,7,3,1
8990 GO TO 9999
9000 INPUT "File to save ? "; LI
NE f#
9010 SAVE "m";1)f#
9020 GO TO 9999
9100 INPUT "File to erase ? "; L
INE f#
9110 ERASE "m";1)f#
9120 GO TO 9999
9200 PAPER 7: INK 0: CLS : GO TO
9999

```

*Author: A. Gladwell*

# Martians



Here is a little fantasy about life on Mars. There is a small population of little bug-eyed monsters, living on cactus leaves. Our scientists have observed how many little monsters there are, how many leaves are eaten altogether in a day and how many leaves a female eats per day. Can you work out how many leaves a male eats each day? By the way, some of the monsters are hibernating. We can also tell you that the total number of leaves eaten by females is equal to that eaten by males.

```

1 REM *****
2 REM
3 REM      MARTIANS
4 REM
5 REM *****
6 REM
100 DIM m$(30)
210 RANDOMIZE
220 GO TO 1000
300 REM ** Message **
310 PRINT AT 20,1: BRIGHT 1: FL
ASH 1: PAPER 5: INK 0:m$
320 GO SUB 400
330 IF INKEY#<>"" THEN GO TO 33
0

```



```

335 LET K#=INKEY$: IF K#="" THE
N GO TO 335
337 IF K#>="A" AND K#<="Z" THEN
LET K#=CHR$(CODE (K#)-32)
340 PRINT AT 20,1;"
345 RETURN
350 REM ** Instruction **
360 PRINT AT 20,1; BRIGHT 1; PA
PER 5; INK 0;m#
365 RETURN
400 REM ** Pips **
410 FOR i=1 TO 2
420 BEEP 0.05,50: PAUSE 2
430 NEXT i
445 RETURN
450 REM ** Draw border **
460 PRINT AT 0,0;"█"; FOR i=1 T
O 20: PRINT AT i,0;"█"; NEXT i
465 PRINT AT 21,0;"█"; FOR i=1
TO 30: PRINT AT 21,i;"█"; NEXT i
470 PRINT AT 21,31;"█"; FOR i=2
0 TO 1 STEP -1: PRINT AT i,31;"█
"; NEXT i
475 PRINT AT 0,31;"█"; FOR i=30
TO 1 STEP -1: PRINT AT 0,i;"█";
NEXT i
485 RETURN
500 REM ** Raspberry **
510 BEEP 1,16: BEEP 1,12
520 BEEP .5,25: FOR x=23 TO 17
STEP -0.5: BEEP .1,x: PAUSE 2: N
EXT x
545 RETURN
550 REM ** Congratulations **
555 RESTORE 570
560 READ n,p: BEEP n*0.25,p: IF
n>0 THEN GO TO 560
570 DATA 1,12,1,14,1,16,2,17,2,
5,12
572 DATA 1,17,1,16,1,17,2,19,2,
5,14
574 DATA 1,14,1,16,1,17,1,5,21,
0,5,19
576 DATA 1,19,1,17,1,17,1,16,1,
14,1,16,3,17
580 DATA 0,0
595 RETURN
600 REM
1000 REM ** Show instructions
1001 REM
1050 RESTORE 8000
1060 BORDER 7: PAPER 7: INK 2: C
LS
1070 PRINT AT 1,0;
1080 READ i$: IF i$(1)="@" THEN
GO TO 1200
1100 PRINT i$
1110 BEEP .02,-20: BEEP .02,-25
1120 GO TO 1080
1200 LET m#="Press any key to co
ntinue..."
1210 GO SUB 300
1300 REM
2000 REM ** Generate puzzle **
2001 REM
2050 RANDOMIZE

```

```

2070 LET nm=3+INT (RND*13)
2080 LET nf=3+INT (RND*13)
2085 IF nf=nm THEN GO TO 2080
2090 LET fm=2+INT (RND*11)
2100 LET ff=2+INT (RND*11)
2110 IF ff=fm THEN GO TO 2100
2120 LET m1=3+INT (RND*6)
2130 LET pm=m1*nf*fm
2140 LET pf=m1*ff*nm
2170 LET pop=pm+pf
2180 LET leaves=2*pm*nm/fm
2990 REM
3000 REM ** Display puzzle **
3001 REM
3050 BORDER 5: PAPER 7: INK 0: C
L3: GO SUB 450
3070 PRINT AT 2,2: PAPER 5:" MAR
TIANS "
3090 RESTORE 3200
3100 FOR i=0 TO 7: READ byte: PO
KE USR "a"+i,byte: NEXT i
3110 FOR i=0 TO 7: READ byte: PO
KE USR "b"+i,byte: NEXT i
3150 LET a$="====": LET b$=CHR$
(17)+CHR$ (8)+" "+CHR$ (18)+CHR$
(11)+"❤️"
3160 LET c$="◆====": LET d$=CHR$
(17)+CHR$ (8)+" "+CHR$ (18)+CHR$
(11)+"❤️"+CHR$ (18)+CHR$ (10)+" "
3200 LET m$="Press ENTER to try
your answer"
3205 GO SUB 350
3210 PRINT AT 14,1: PAPER 6:"Tot
al population is ":pop
3220 PRINT AT 15,1: PAPER 5:"Lea
ves eaten by a female is ":nf
3225 PRINT AT 16,1: PAPER 4: INK
9:"1/":fm:" of males are awake"
3230 PRINT AT 17,1: PAPER 3: INK
9:"1/":ff:" of females are awak
e "
3240 PRINT AT 18,1: PAPER 2: INK
9:"Total leaves eaten is ":leav
es
3300 LET l=4
3310 FOR i=1 TO 7
3320 LET len=1+(i-1)*2
3330 LET start=14-INT (len/2)
3340 PRINT AT l,start: PAPER 4:"
" ( TO len)
3350 LET l=l+1
3360 NEXT i
3370 PRINT AT 11,14:"■":AT 12,14
:"■"
3400 REM ** Insect movement **
3410 LET dir=1
3420 LET i=1: LET l=4
3430 LET len=1+(i-1)*2
3440 LET start=14-INT (len/2)-4
3450 LET end=start+len+4
3470 IF dir<0 THEN LET temp=star
t: LET start=end: LET end=temp
3500 LET j=start
3510 IF dir>0 THEN PRINT AT l,j)
a$:AT l+1,j)b$
3520 IF dir<0 THEN PRINT AT l,j)
c$:AT l+1,j)d$

```

```

3530 IF INKEY$>" " THEN GO TO 400
0
3535 BEEP .02,-20: BEEP .02,-25:
PAUSE 10
3540 LET J=J+dir: IF J<>end THEN
GO TO 3510
3550 PRINT AT L,1;"
3560 PRINT AT L+1,1: PAPER 8;"

3600 LET dir=-dir
3610 LET L=L+1: LET i=i+1
3620 IF i<=7 THEN GO TO 3430
3650 GO TO 3300
3999 REM
4000 REM ** Get answer **
4001 REM
4050 INPUT "Number of leaves ? "
) LINE r$
4060 IF r$="" THEN GO TO 4050
4065 LET ok=1
4070 FOR i=1 TO LEN r$
4080 IF r$(i)<"0" OR r$(i)>"9" T
HEN LET ok=0
4090 NEXT i
4100 IF ok=0 THEN GO TO 4050
4150 LET answer=VAL r$
4160 LET ok=0
4170 IF answer=nm THEN LET ok=1
4499 REM
4500 REM ** Check answer **
4501 REM
4550 IF ok=0 THEN LET m$="You at
e too many yourself!": GO SUB 35
0: GO SUB 500: PAUSE 0
4570 IF ok=1 THEN LET m$="Right!
You're on the next trip!": GO S
UB 350: GO SUB 550: PAUSE 0
4580 LET m$="Do you want another
try ?": GO SUB 300
4590 IF k$<>"y" THEN PAPER 7: IN
K 0: CLS : GO TO 9999
4600 IF ok=0 THEN GO TO 3000
4610 IF ok=1 THEN GO TO 2000
7999 REM
8000 REM ** Instruction data **
8001 REM
8010 DATA " MARTIANS","
"
8020 DATA "Here is a little fant
asy about"
8030 DATA "life on Mars. There
is a "
8040 DATA "small population of l
ittle"
8050 DATA "bug-eyed monsters, li
ving on"
8060 DATA "cactus leaves. Our s
cientists"
8070 DATA "have observed how man
y little"
8080 DATA "monsters there are, h
ow many"
8090 DATA "leaves are eaten alto
gether in"
8100 DATA "a day and how many le
aves a "

```



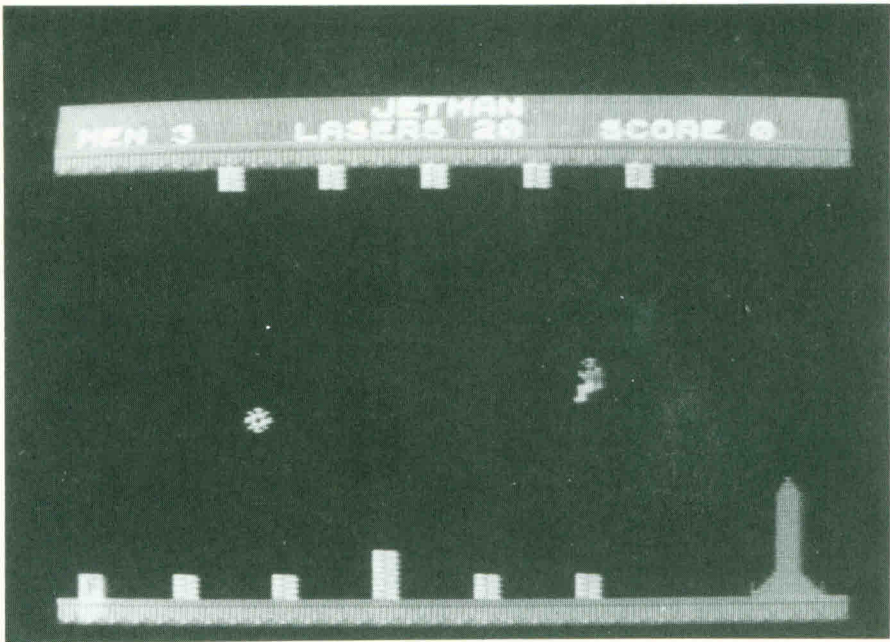
```

8110 DATA "female eats per day.
      Can you"
8120 DATA "work out how many lea
      ves a male"
8130 DATA "eats per day? "
8140 DATA "By the way, some of t
      he monsters"
8150 DATA "are hibernating. We
      can also"
8160 DATA "tell you that the tot
      al number"
8170 DATA "of leaves eaten by fe
      males is"
8180 DATA "equal to that eaten b
      y males."
8190 DATA "@"
8200 REM ** UDG data **
8210 DATA 102,255,153,153,255,37
      ,126,60
8220 DATA 204,204,204,204,204,20
      4,204,204
8230 GO TO 9999
9000 INPUT "File to save ? "; LI
      NE f$
9010 SAVE #"m";1;f$
9020 GO TO 9999
9100 INPUT "File to erase ? "; L
      INE f$
9110 ERASE #"m";1;f$
9120 GO TO 9999
9200 PAPER 7: INK 0: CLS : GO TO
      9999

```

*Author: S. Hall*

# Jetman



An arcade game which has some splendid graphics. The object is to steal fuel cubes and then drop them on the nose of your rocket ship. When the ship is full it will launch. Unfortunately, at the same time you must avoid the dreaded Morf and ever-growing columns of anti-matter... but use your laser effectively and you could win.

Controls: "1" left; "2" right; "0" up; "O" laser.

```

1 REM "JETMAN" © W.H.Jones 19
84 4 LET hs=200
   8 LET man=3: LET l=20: LET sc
=0: LET osc=0
  10 LET a#="A": LET b#="B"
  20 LET c#="C": LET d#="D"
  21 LET e#="E"
  30 LET row=10: LET orow=10
  31 LET col=20: LET ocol=20
  32 LET mrow=15: LET omrow=15
  33 LET mcol=0: LET omcol=0
  40 DIM h(10): DIM p(10)
  50 LET d=0: LET n=0
  60 LET vb=5: LET fu=0: LET c=0
  65 BORDER 0: PAPER 0: INK 7: C
LS
  70 GO SUB 6000

```

```

2045 IF mrow=row AND mcol=col TH
EN GO SUB 3540
2046 IF mrow=row+1 AND mcol=col
THEN GO SUB 3540
2047 IF fu AND mrow=row+2 AND mc
ol=col THEN GO SUB 3540
2048 IF c THEN GO TO 2060
2050 PRINT OVER 1; INK 6; BRIGHT
1;AT omrow,omcol;"*"
2050 PRINT OVER 1; INK 6; BRIGHT
1;AT mrow,mcol;"*"
2070 LET omrow=mrow: LET omcol=m
col
2080 LET c=0
2090 RETURN
3000 REM 33333
3010 IF l=0 THEN RETURN
3030 PLOT OVER 1;ocol*8,170-(orow
w*8)
3040 IF d THEN GO TO 3100
3060 DRAW OVER 1; INK 6; BRIGHT
1;-(ocol*8),0: BEEP .01,40: PLOT
OVER 1;ocol*8,170-(orow*8): DRA
W OVER 1; INK 6; BRIGHT 1;-(ocol
*8),0
3070 FOR f=(ocol-1) TO 0 STEP -1
3080 IF SCREEN$(orow,f)<>" " TH
EN GO SUB 3500: LET f=0
3090 NEXT f
3100 IF NOT d THEN GO TO 3140
3110 DRAW OVER 1; INK 6; BRIGHT
1;255-(ocol*8),0: BEEP .01,40: P
LOT OVER 1;ocol*8,170-(orow*8):
DRAW OVER 1; INK 6; BRIGHT 1;255
-(ocol*8),0
3120 FOR f=(ocol+1) TO 31
3130 IF SCREEN$(orow,f)<>" " TH
EN GO SUB 3500: LET f=31
3140 NEXT f
3145 LET l=l-1: IF l<0 THEN LET
l=0
3150 PRINT PAPER 2; INK 7; BRIGHT
1;AT 1,17;l;" "
3160 RETURN
3500 REM 33333 explode
3510 FOR g=1 TO 5: PRINT ; INK (
7-g); BRIGHT 1;AT orow,f;e$(g):
BEEP .05,g*10: NEXT g
3520 IF orow=mrow AND f=mcol THE
N LET mcol=0: LET omcol=0: PRINT
OVER 1; INK 4; BRIGHT 1;AT omro
w,omcol;"*"
3530 RETURN
3540 REM 33333 3543
3550 FOR f=1 TO 5: PRINT ; INK (
7-f); BRIGHT 1;AT row,col;e$(f):
AT row+1,col;e$(f): IF fu THEN P
RINT AT row+2,col;e$(f)
3560 BEEP .01,f: BEEP .02,f*3
3565 NEXT f
3570 LET row=19: LET col=27: LET
fu=0
3580 LET c=1
3585 PRINT AT omrow,omcol;" ": L
ET omrow=10: LET mrow=10: LET om
col=0: LET mcol=0
3587 PRINT OVER 1;AT mrow,mcol;"

```



```

110 GO SUB 9000
120 PRINT TAB 5; FLASH 1;"PRESS
ANY KEY TO START"
130 IF INKEY$="" THEN GO TO 130
140 CLS
150 GO SUB 9100
1000 REM move mrow
1005 LET n=n+1
1010 GO SUB 1500
1020 GO SUB 2000
1030 GO SUB 1500
1040 IF IN 57342=189 THEN GO SUB
3000
1050 IF n>vb THEN GO SUB 4000
1099 GO TO 1000
1500 REM move mcol
1510 IF IN 63486=190 THEN LET co
l=col-1; LET d=0
1520 IF IN 63486=189 THEN LET co
l=col+1; LET d=1
1530 IF IN 61438=190 THEN LET ro
w=row-2
1540 LET row=row+1
1545 IF col<0 THEN LET col=0
1546 IF col>29 THEN LET col=29
1547 IF row<3 THEN LET row=3
1548 IF row>19 THEN LET row=19
1550 IF orow=19 AND ocol=1 THEN
LET fu=1; BEEP .01,7; BEEP .01,6
: BEEP .01,5; BEEP .01,15; BEEP
.02,11; BEEP .03,2
1552 IF fu AND col=29 THEN GO SU
B 4500
1565 IF IN 63486=190 THEN LET a$
=" "; LET b$=""
1566 IF IN 63486=189 THEN LET a$
=" "; LET b$=""
1567 IF orow=row AND ocol=col TH
EN GO TO 1580
1570 PRINT AT orow,ocol;" ";AT o
row+1,ocol;" "
1571 IF fu THEN PRINT INK 3; OVE
R 1; INK 5;AT orow+2,ocol;" "
1572 IF SCREEN$(row,col)<>" " T
HEN GO SUB 3540
1573 IF SCREEN$(row+1,col)<>" "
AND col>2 THEN GO SUB 3540
1574 IF SCREEN$(row+2,col)<>" "
AND fu=1 AND col>2 THEN GO SUB
3540
1575 PRINT INK 5;AT row,col;a$;A
T row+1,col;b$
1576 IF fu THEN PRINT INK 3; OVE
R 1;AT row+2,col;" "
1580 LET orow=row; LET ocol=col
1585 PRINT PAPER 1; INK 4;AT 21,
1;" "
1590 RETURN
2000 REM move mrow
2010 IF row>mrow THEN LET mrow=m
row+1
2020 IF row<mrow THEN LET mrow=m
row-1
2030 IF col>mcol THEN LET mcol=m
col+1
2040 IF col<mcol THEN LET mcol=m
col-1

```

```

" "; OVER 0; AT 20,1; "■"
3600 LET man=man-1: PRINT PAPER
2; INK 7; BRIGHT 1; AT 1,5; man: I
F man=0 THEN GO TO 7000
3620 RETURN
4000 REM 3600
4010 LET n=0
4015 LET v=INT (RND*10)+1
4020 IF v>5 THEN GO TO 4060
4030 LET h(v)=h(v)+1: IF h(v)>20
THEN LET h(v)=3
4040 PRINT AT h(v),p(v); FLASH 1
; INK 6; "■"
4045 BEEP .01,-10: BEEP .01,-20
4050 RETURN
4060 LET h(v)=h(v)-1: IF h(v)<0
THEN LET h(v)=18
4070 GO TO 4040
4500 REM 4000
4510 LET fu=0
4515 PRINT INK 3; AT orow+2,ocol;
" "; AT 20,1; "■"
4520 FOR f=row+3 TO 20
4530 PRINT INK 3; OVER 1; AT f,29
; "■"
4540 BEEP .03,f: BEEP .03,f*3: B
EEP .03,f*2
4550 PRINT INK 3; OVER 1; AT f,29
; "■"
4560 NEXT f
4570 FOR f=1 TO 5: PRINT INK 2; A
T 15+f,29;r#(f): NEXT f
4575 PRINT INK 2; AT 20,28; "■"
4580 LET sc=sc+10: PRINT PAPER 2
; INK 7; BRIGHT 1; AT 1,28; sc: IF
sc=osc+50 THEN GO TO 5000
4590 RETURN
5000 REM 4500
5005 PRINT AT orow,ocol; " "; AT o
row+1,ocol; " "
5010 FOR f=15 TO 2 STEP -1
5015 BRIGHT 1: INK 7
5020 PRINT INK 2; AT f,29; "▲"; AT
f+1,29; "■"; AT f+2,29; "■"; AT f+3,
29; "■"; AT f+4,28; "■"; AT f+5,28
; "■"
5030 FOR g=1 TO 5: BEEP .005,20-
f: BEEP .007,20-(f*3): NEXT g
5040 NEXT f
5050 CLS : PRINT AT 10,6; FLASH
1;"BONUS 100 POINTS"
5060 FOR f=-20 TO 20: BEEP .01,f
: BEEP .02,f*2: NEXT f
5065 LET sc=sc+100: LET osc=sc:
LET vb=vb-1>1
5070 CLS : LET row=19: LET orow=
19: LET ocol=26: LET col=26: GO
TO 9140
6000 REM 5000
6005 PRINT AT 0,8; INK 2; BRIGHT
1;"JETMAN"
6010 FOR f=0 TO 6
6015 INK f
6030 PRINT AT 1,0;"The object of
the game is to steal fuel cu
bes which appear on the bottom le
ft of the screen "

```

```

6040 PRINT "and drop them onto t
he nose of your rocket ship. Wh
en the ship is full it will laun
ch and this earns you 100 bonus
points."
6050 PRINT "However at the same
time you must avoid the dread
ed Morf and the ever-growing col
umns of anti-matter."
6070 PRINT "You may use your las
er to blast the morf, but another
one will quickly appear. You m
ay also blowholes in the columns
-but such holes will not last
indefinitely"
6080 PRINT TAB 10; "CONTROLS"
6090 PRINT : PRINT "←=LEFT →=RI
GHT ↑=UP ↓=LASER"
6091 PRINT : INK 4: BRIGHT 1
6092 FOR g=1 TO 10: BEEP .01, f#2
+g: NEXT g
6095 NEXT f
6099 RETURN
7000 REM 8213-717
7005 CLS
7010 IF sc>hs THEN GO TO 7090
7015 FOR f=0 TO -20 STEP -1: BEE
P .01, f: BEEP .01, f#2: NEXT f
7020 PRINT AT 10,4; "YOUR SCORE W
AS: ";sc
7080 PRINT AT 12,4; "THE HIGH SCO
RE IS: ";hs
7085 GO TO 7120
7090 FOR f=10 TO 60 STEP 5: FOR
g=f TO f-5 STEP -1: BEEP .01, g:
NEXT g: NEXT f
7095 PRINT AT 10,8: FLASH 1; "CON
GRATULATIONS"; FLASH 0
7100 PRINT : PRINT TAB 7; "YOU SC
ORED: ";sc
7110 PRINT : PRINT TAB 5; "THATS
A NEW HIGH SCORE"
7120 PRINT AT 18,4; "PRESS ANY KE
Y FOR REPLAY"
7130 IF INKEY#="" THEN GO TO 712
0
7140 RUN
9000 REM 8213-3069
9010 FOR f=1 TO 12: READ x#
9020 FOR g=0 TO 7: READ x: POKE
USR x#+g, x: NEXT g
9030 NEXT f
9040 DATA "m", 28, 44, 28, 11, 95, 127
, 61, 29, "n", 29, 125, 120, 96, 96, 224,
0, 0, "h", 56, 52, 56, 208, 250, 254, 188
, 184
9050 DATA "i", 184, 190, 30, 6, 6, 7, 0
, 0, "f", 255, 255, 85, 85, 85, 85, 84, 16
, "b", 24, 74, 60, 220, 167, 60, 82, 24
9060 DATA "s", 13, 221, 26, 190, 16, 2
21, 8, 108, "e", 130, 62, 62, 118, 196, 2
14, 252, 34, "r", 24, 24, 60, 126, 126, 2
55, 255, 255
9070 DATA "c", 1, 3, 7, 143, 159, 191,
255, 255, "t", 128, 192, 224, 241, 249,
253, 255, 255, "l", 15, 240, 15, 240, 15
, 240, 15, 240

```



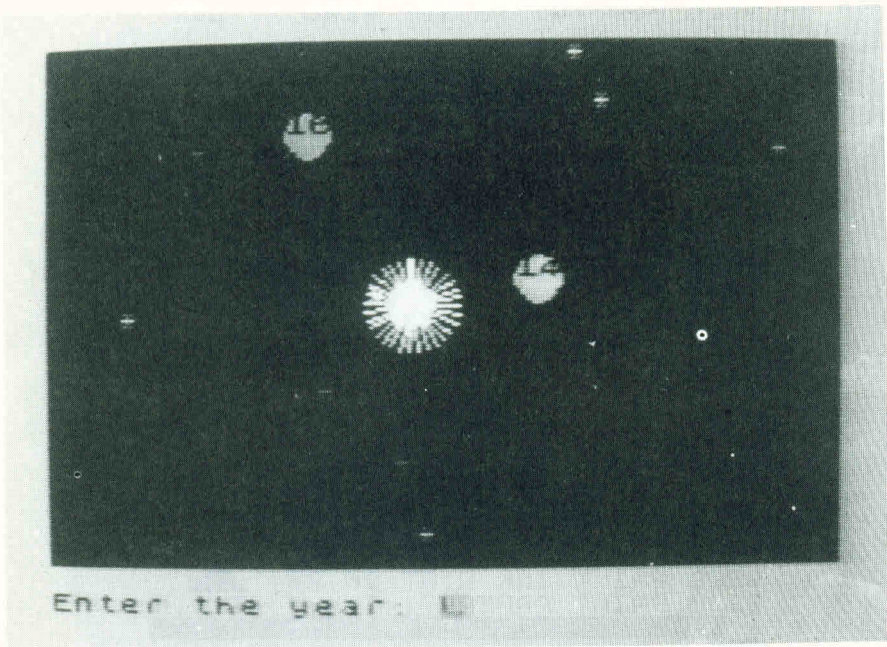
```

9080  FOR f=1 TO 10: READ x: LET
p(f)=x: NEXT f
9090  DATA 7,11,15,19,23,5,9,13,1
7,21
9095  RETURN
9100  REM 9100  REM 31-3-88
9120  FOR f=1 TO 10: READ x: LET
p(f)=x: NEXT f
9130  DATA 7,11,15,19,23,5,9,13,1
7,21
9140  FOR f=1 TO 5: LET h(f)=3: N
EXT f
9150  FOR f=6 TO 10: LET h(f)=20:
NEXT f
9160  FOR f=0 TO 31: PRINT PAPER
1; INK 4; BRIGHT 0; AT 21,f; "▀"; A
T 2,f; "▀"; NEXT f
9170  FOR f=1 TO 5: FOR g=3 TO h(
f): PRINT INK 5; AT g,p(f); FLASH
1; "▀"; NEXT g: NEXT f
9180  FOR f=6 TO 10: FOR g=20 TO
h(f) STEP -1: PRINT INK 6; AT g,p
(f); FLASH 1; "▀"; NEXT g: NEXT f
9190  PRINT OVER 1; AT mrow,mcol; "
*"
9200  PRINT INK 5; AT row,col; "▀";
AT row+1,col; "▀"
9210  LET r$="▀"; FOR f=1 TO
5: PRINT INK 2; AT 15+f,29;r$(f);
NEXT f
9220  PRINT INK 2; AT 20,28;"▀"
9230  PRINT PAPER 7; INK 2; AT 0,0
;"▀"; JETMAN
9240  PRINT PAPER 7; INK 2;"▀"
9250  PRINT PAPER 2; INK 7; BRIGHT
1; AT 1,5;man; AT 1,17;l; AT 1,28
;sc
9255  PRINT INK 3; AT 20,1;"▀"
9260  RETURN
9999  SAVE "Jet" LINE 1

```

*Author:* W. H. Jones

# Planets



You are watching two planets going around the sun in a strange galaxy. You notice how long it takes for each one to orbit the sun. On 1 January 2020, both the planets and the sun are in a straight line. You wish to find the next time when this will happen. Next you can see the planets with the number of years for each one's orbit marked on it. You have to give the next year during which you can see them line up again.

```
1 REM *****
2 REM
3 REM      PLANETS
4 REM
5 REM *****
6 REM
100 DIM m$(30)
210 RANDOMIZE
225 GO TO 1000
300 REM ** Message **
310 PRINT AT 20,1; BRIGHT 1; FL
ASH 1; PAPER 5; INK 0;m$
320 GO SUB 400
330 IF INKEY#(">") THEN GO TO 33
0
335 LET k#=INKEY#; IF k#="" THE
N GO TO 335
337 IF k#="A" AND k#<="Z" THEN
```

```

LET k#=CHR$(CODE(k#)-32)
340 PRINT AT 20,1;"
345 RETURN
350 REM ** Instruction **
360 PRINT AT 20,1; BRIGHT 1; PA
PER 5; INK 0;m#
395 RETURN
400 REM ** Pips **
410 FOR i=1 TO 2
420 BEEP 0.05,50: PAUSE 2
430 NEXT i
445 RETURN
450 REM ** Draw border **
460 PRINT AT 0,0;"█": FOR i=1 T
O 20: PRINT AT i,0;"█": NEXT i
465 PRINT AT 21,0;"█": FOR i=1
TO 30: PRINT AT 21,i;"█": NEXT i
470 PRINT AT 21,31;"█": FOR i=2
0 TO 1 STEP -1: PRINT AT i,31;"█
": NEXT i
475 PRINT AT 0,31;"█": FOR i=30
TO 1 STEP -1: PRINT AT 0,i;"█":
NEXT i
485 RETURN
500 REM ** Raspberry **
510 BEEP 1,16: BEEP 1,12
520 BEEP .5,25: FOR x=23 TO 17
STEP -0.5: BEEP .1,x: PAUSE 2: N
EXT x
545 RETURN
550 REM ** Congratulations **
555 RESTORE 570
560 READ n,p: BEEP n*0.25,p: IF
n>0 THEN GO TO 560
570 DATA 1,12,1,14,1,16,2,17,2,
5,12
572 DATA 1,17,1,16,1,17,2,19,2,
5,14
574 DATA 1,14,1,16,1,17,1,5,21,
0,5,19
576 DATA 1,19,1,17,1,17,1,16,1,
14,1,16,3,17
580 DATA 0,0
585 RETURN
900 REM
1000 REM ** Show instructions
1001 REM
1030 PAPER 6: INK 1: CLS
1050 RESTORE 8000
1060 PRINT AT 2,0:
1070 READ i#: IF i#(1)<>"@" THEN
PRINT i#: BEEP .2,RND*30: GO TO
1070
1200 LET m#="Press key for your
telescope..": GO SUB 300
1999 REM
2000 REM ** Generate puzzle **
2001 REM
2050 RANDOMIZE
2060 DIM p(2)
2070 DEF FN i(a,b)=a*b/(2*(b-a))
2080 LET p(1)=5+INT (RND*10)
2090 LET p(2)=5+INT (RND*20): IF
p(2)<=p(1) THEN GO TO 2090
2120 LET tab=FN i(p(1),p(2))
2130 LET tab=INT (tab)
2999 REM

```



```

3000 REM ** Display puzzle **
3001 REM
3050 BORDER 5: PAPER 0: CLS
3055 RESTORE 8200
3060 FOR i=0 TO 7: READ byte: PO
KE USR "a"+i,byte: NEXT i
3070 FOR i=0 TO 7: READ byte: PO
KE USR "b"+i,byte: NEXT i
3080 FOR i=0 TO 7: READ byte: PO
KE USR "c"+i,byte: NEXT i
3090 FOR i=0 TO 7: READ byte: PO
KE USR "d"+i,byte: NEXT i
3100 LET a$="☿"; LET b$="♂"
3150 FOR i=1 TO 10: PRINT AT AND
*21,RND*31: INK 1+INT (RND*7);"*
": NEXT i
3200 LET cl=10: LET cc=14
3210 PRINT INK 7: BRIGHT 1;AT cl
,cc;a$;AT cl+1,cc;b$
3330 FOR i=0 TO 6.2 STEP 0.2
3340 LET x=15*SIN i: LET y=15*CO
S i
3350 PLOT INK 7;120,87: DRAW BRI
GHT 1: INK 7;x,y
3370 NEXT i
3380 PRINT #0;"Press ENTER to tr
y your answer";
3400 DIM r(2): DIM v(2)
3410 LET r(1)=5: LET r(2)=8
3415 LET v(1)=0.6: LET v(2)=0.2
3420 DIM d(2): DIM c(2)
3430 FOR i=1 TO 2: LET c(i)=4+IN
T (RND*4): NEXT i
3440 DIM x(2): DIM y(2)
3450 FOR i=1 TO 2: LET x(i)=14-r
(i): LET y(i)=10: NEXT i
3490 LET i=1
3494 REM
3495 REM ** Planet rotation loop
3500 LET d(i)=d(i)+v(i)
3520 LET l=cl-(r(i)*SIN d(i))
3530 LET c=cc-(r(i)*COS d(i))
3550 IF l=y(i) AND c=x(i) THEN G
O TO 3700
3570 PRINT AT y(i),x(i);" ";AT
y(i)+1,x(i);" "
3580 PRINT INK c(i);AT l,c;a$;AT
l+1,c;b$;AT l,c: OVER 1;p(i)
3600 LET x(i)=c: LET y(i)=l
3700 IF INKEY$>" " THEN GO TO 400
0
3720 LET i=i+1: IF i>2 THEN LET
i=1
3750 GO TO 3500
3999 REM
4000 REM ** Get answer **
4001 REM
4050 INPUT "Enter the year: "; L
INE r#
4070 LET answer=VAL r#-2020
4150 LET ok=1
4170 IF answer<>tab THEN LET ok=
0
4499 REM
4500 REM ** Check answer **
4501 REM
4550 IF ok=0 THEN LET m$="Sorry,
Galileo, not that year!": GO 5

```

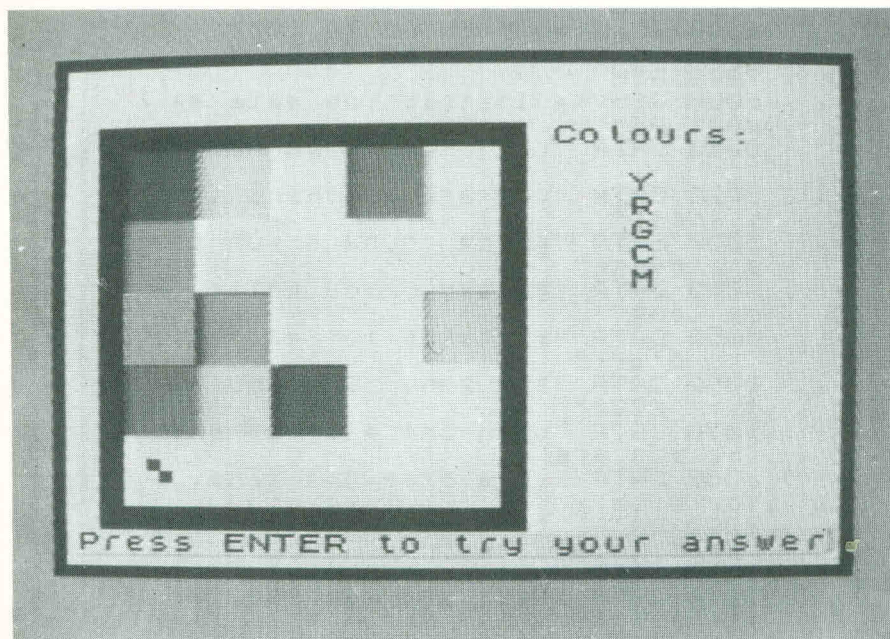
```

UB 350: GO SUB 500: PAUSE 0
4570 IF ok=1 THEN LET m#="Scient
ist of the year!": GO SUB 350:
GO SUB 550: PAUSE 0
4580 LET m#="Do you want another
look?": GO SUB 300
4590 IF k#<>"y" THEN PAPER 7: IN
K 0: CLS : GO TO 9999
4600 IF ok=0 THEN GO TO 3000
4610 IF ok=1 THEN GO TO 2000
7999 REM
8000 REM ** Instruction data **
8001 REM
8010 DATA " PLANETS",
" "
8020 DATA "You are watching two
planets"
8030 DATA "going round a sun in
a strange"
8040 DATA "galaxy. You notice h
ow long"
8050 DATA "it takes for each one
to orbit"
8060 DATA "the sun. On January
1st 2020"
8070 DATA "both the planets and
the sun are"
8080 DATA "in a straight line.
You wish"
8090 DATA "to find the next time
when this"
8100 DATA "will happen.", " "
8110 DATA "Next you can see the
planets "
8120 DATA "with the number of ye
ars for "
8130 DATA "each one's orbit mark
ed on it."
8140 DATA "You have to give the
next year "
8150 DATA "during which you can
see them"
8160 DATA "line up again."
8190 DATA "☉"
8199 REM
8200 REM ** UDG Data - Circle **
8201 REM
8210 DATA 3,15,31,63,127,127,255
,255
8220 DATA 192,240,248,252,252,25
4,255,255
8230 DATA 255,255,127,63,63,15,1
5,3
8240 DATA 255,255,254,252,252,24
8,240,192
8990 GO TO 9999
9000 INPUT "File to save ? "; LI
NE f#
9010 SAVE "m";1)f#
9020 GO TO 9999
9100 INPUT "File to erase ? "; L
INE f#
9110 ERASE "m";1)f#
9120 GO TO 9999
9200 PAPER 7: INK 0: CLS : GO TO
9999

```

*Author: P. J. Hill*

# Colourgrid



You will see a large square. You have to fill it in with small squares of different colours – five along each side. There must never be two squares of the same colour on any row, column or diagonal. To make things harder, you must fit your squares around four which the computer has already put in. These squares cannot be changed. Press the cursor keys to move around the square and the initial letter of each colour to change the small squares.

```
1 REM *****
2 REM
3 REM      COLOURGRID
4 REM
5 REM *****
6 REM
7 REM
8 REM
9 REM
10 REM
11 REM
12 REM
13 REM
14 REM
15 REM
16 REM
17 REM
18 REM
19 REM
20 REM
21 REM
22 REM
23 REM
24 REM
25 REM
26 REM
27 REM
28 REM
29 REM
30 REM
31 REM
32 REM
33 REM
34 REM
35 REM
36 REM
37 REM
38 REM
39 REM
40 REM
41 REM
42 REM
43 REM
44 REM
45 REM
46 REM
47 REM
48 REM
49 REM
50 REM
51 REM
52 REM
53 REM
54 REM
55 REM
56 REM
57 REM
58 REM
59 REM
60 REM
61 REM
62 REM
63 REM
64 REM
65 REM
66 REM
67 REM
68 REM
69 REM
70 REM
71 REM
72 REM
73 REM
74 REM
75 REM
76 REM
77 REM
78 REM
79 REM
80 REM
81 REM
82 REM
83 REM
84 REM
85 REM
86 REM
87 REM
88 REM
89 REM
90 REM
91 REM
92 REM
93 REM
94 REM
95 REM
96 REM
97 REM
98 REM
99 REM
100 DIM m$(30)
101 GO TO 1000
102 REM ** Message **
103 PRINT AT 20,1: BRIGHT 1: FL
104 ASH 1: PAPER 5: INK 0:m#
105 GO SUB 400
106 IF INKEY#(<>)" THEN GO TO 33
0
```



```

335 LET K$=INKEY$: IF K$="" THE
N GO TO 335
337 IF K$>="A" AND K$<="Z" THEN
LET K#=CHR# (CODE (K$)-32)
340 PRINT AT 20,1;"

345 RETURN
350 REM ** Instruction **
360 PRINT AT 20,1; BRIGHT 1; PA
PER 5; INK 0;M$
365 RETURN
400 REM ** Pips **
410 FOR i=1 TO 2
420 BEEP 0.05,50: PAUSE 2
430 NEXT i
445 RETURN
450 REM ** Draw border **
460 PRINT AT 0,0;"█": FOR i=1 T
O 20: PRINT AT i,0;"█": NEXT i
465 PRINT AT 21,0;"█": FOR i=1
TO 30: PRINT AT 21,i;"█": NEXT i
470 PRINT AT 21,31;"█": FOR i=2
0 TO 1 STEP -1: PRINT AT i,31;"█
": NEXT i
475 PRINT AT 0,31;"█": FOR i=30
TO 1 STEP -1: PRINT AT 0,i;"█":
NEXT i
485 RETURN
500 REM ** Raspberry **
510 BEEP 1,15: BEEP 1,12
520 BEEP .5,25: FOR x=23 TO 17
STEP -0.5: BEEP .1,x: PAUSE 2: N
EXT x
545 RETURN
550 REM ** Congratulations **
555 RESTORE 570
560 READ n,p: BEEP n*0.25,p: IF
n>0 THEN GO TO 560
570 DATA 1,12,1,14,1,16,2,17,2,
5,19
572 DATA 1,17,1,18,1,17,2,19,2,
5,14
574 DATA 1,14,1,16,1,17,1,5,21,
0.5,19
576 DATA 1,19,1,17,1,17,1,18,1,
14,1,16,3,17
580 DATA 0,0
595 RETURN
700 REM ** Function to print sq
uare at row l, col c, colour x
710 DEF FN s#(l,c,x)=CHR# (17)+
CHR# (x)+FN p#(l*3+1,c*3)+" "+
FN p#(l*3+2,c*3)+" "+FN p#(l*3
+3,c*3)+" "
720 DEF FN c(a)=2+2*a
730 DEF FN p#(l,c)=CHR# (22)+CH
R# (l)+CHR# (c)
800 REM ** Function to print cu
rsor on row l, column c **
810 DEF FN c#(l,c)=FN p#(l*3+2,
c*3+1)+CHR# (17)+CHR# (8)+CHR# (
16)+CHR# (9)+CHR# (18)+CHR# (1)+
"█"
850 REM ** Function to remove c
ursor
860 DEF FN d#(l,c)=FN p#(l*3+2,
c*3+1)+CHR# (17)+CHR# (8)+CHR# (

```



```

3070 NEXT i
3080 PRINT AT 19,2;"██████████"
3100 PRINT AT 3,20;"Colours:"
3120 FOR i=1 TO 5
3130 PRINT AT i+4,23;c$(w(i))
3140 NEXT i
3150 FOR i=1 TO 4
3160 LET l=r(i,1): LET c=r(i,2)
3170 LET a(l,c)=z(l,c)
3180 PRINT FN s$(l,c,z(l,c))
3190 NEXT i
3000 REM
4000 REM ** Get answer **
4001 REM
4050 LET l=1: LET c=1
4060 LET m$="Press ENTER to try
your answer": GO SUB 350
4100 PRINT FN c$(l,c)
4150 IF INKEY#("<")="" THEN GO TO 41
50
4160 PAUSE 0: LET k$=INKEY$
4170 IF k$>="a" AND k$<="z" THEN
LET k$=CHR$(CODE k$-32)
4180 PRINT FN d$(l,c)
4190 LET ok=0
4200 IF k$="7" AND l>1 THEN LET
l=l-1: GO TO 4100
4220 IF k$="8" AND c<5 THEN LET
c=c+1: GO TO 4100
4240 IF k$="5" AND c>1 THEN LET
c=c-1: GO TO 4100
4260 IF k$="6" AND l<5 THEN LET
l=l+1: GO TO 4100
4280 IF k$=CHR$(13) THEN GO TO
4500
4300 LET orig=0
4310 FOR i=1 TO 4
4320 IF l=r(i,1) AND c=r(i,2) TH
EN LET orig=1
4330 NEXT i
4340 IF orig=1 THEN GO TO 4450
4350 FOR i=1 TO 5
4360 IF k$=c$(w(i)) THEN LET a(l
,c)=w(i): PRINT FN s$(l,c,w(i)):
LET ok=1
4370 NEXT i
4450 IF ok=0 THEN BEEP .2,25
4460 GO TO 4100
4499 REM
4500 REM ** Check answer **
4501 REM
4550 LET ok=1
4560 FOR l=1 TO 5
4570 FOR c=1 TO 5
4580 IF a(l,c)<>z(l,c) THEN LET
ok=0
4590 NEXT c
4600 NEXT l
4650 IF ok=1 THEN LET m$=" Very
good - you're right !!!": GO SUB
350: GO SUB 550: PAUSE 0
4670 IF ok=0 THEN LET m$=" WRONG
! - check the colours !": GO SU
B 350: GO SUB 500: PAUSE 0
4700 LET m$="Do you want another
go? (Y/N)": GO SUB 300

```



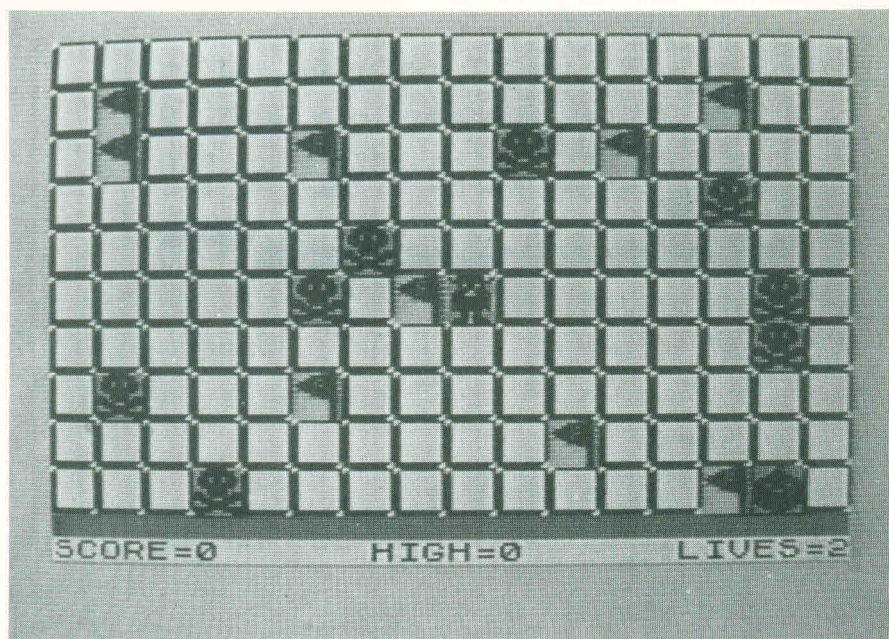
```

4720 IF k#(<)"y" THEN CLS : GO TO
9999
4740 IF ok=1 THEN GO TO 2000
4750 IF ok=0 THEN GO TO 3000
8000 DATA "          COLOURGRID"
8010 DATA " "
8020 DATA "In a minute, you will
see a "
8030 DATA "large square. You ha
ve to fill"
8040 DATA "it in with small squa
res of"
8050 DATA "different colours - f
ive along"
8060 DATA "each side."
8070 DATA "There must never be t
wo squares"
8080 DATA "of the same colour on
any row, "
8090 DATA "column or diagonal. "
8100 DATA "To make things harder
, you must"
8110 DATA "fit your squares arou
nd four"
8120 DATA "which the computer ha
s already"
8130 DATA "put in. These squares
cannot be"
8140 DATA "changed."
8150 DATA "Press the cursor keys
to move "
8160 DATA "around the square, an
d the "
8170 DATA "initial letter of eac
h colour "
8180 DATA "to change the small s
quares." " " " "
8190 DATA "Ⓢ"
8990 GO TO 9999
9000 INPUT "File to save ? "; LI
NE f#
9010 SAVE "#";1/f#
9020 GO TO 9999
9100 INPUT "File to erase ? "; L
INE f#
9110 ERASE "#";1/f#
9120 GO TO 9999

```

*Author:* M. A. King

# TNT



An arcade game with great graphics – but you’ll need quick reactions! You have to defuse the TNT before time runs out and the bomb explodes. The better you become at the game, the harder it gets to win. Controls: “Z” left; “X” right; “P” up; “L” down; “A” left scroll; “S” right scroll.

```

1: LET n=0: GO SUB 9e3
2 GO SUB 8e3: LET hs=n
3 LET tv=3: LET l=1: LET sc=n
4 LET x#="11114331101": LET y
#="32132121216"
5 BORDER 5: INK 1: PAPER 7: B
RIGHT n: FLASH n: OVER n: INVERS
E n: CLS
10 FOR b=n TO 240 STEP 16: FOR
a=173 TO 15 STEP -16: PLOT b,a
20 DRAW n,-13: DRAW 13,n: DRAW
1,1: DRAW -13,n: DRAW n,13: DRA
W 1,1: DRAW 13,n: DRAW n,-13
30 NEXT a: NEXT b
40 LET x=16: LET y=10
50 LET b#="ASZXPLaszxpl"
60 FOR a=1 TO l*4+5
65 LET p=2*INT (RND*10): LET r
=2*INT (RND*10): LET q=2*INT (RN
D*15): LET s=2*INT (RND*15)

```

```

67 IF p=r AND q=s THEN GO TO 5
5
70 PRINT AT r,s; INK 2; PAPER
5; "◀"; AT r+1,s; "▶"
75 PRINT AT p,q; INK 0; PAPER
6; "◀"; AT p+1,q; "▶"
80 NEXT a
85 FOR t=1 TO 5
90 LET a=2*INT (RND*10); LET b
=2*INT (RND*16)
100 IF a=y AND b=x THEN GO TO 9
0
110 PRINT AT a,b; BRIGHT 1; FLA
SH 1; INK 4; PAPER 0; "▲"; AT a+1
,b; "■"
115 PRINT AT 20,n; INK 3; "=====
===== "( TO
1)
116 PAUSE 100
117 FOR J=i-1 TO n STEP -1
120 PRINT AT y,x; INK 1; PAPER
6; "Z"; AT y+1,x; "T"
130 PRINT AT 21,n; "SCORE=";sc;"
"; AT 21,13; "HIGH=";hs; AT 21,25;
"LIVES=";lv
135 PRINT AT 20,J;""
140 LET a#=INKEY#
150 FOR c=1 TO 12
155 IF a#=b$(c) THEN LET d=c-(6
AND c>6); GO TO 170
160 NEXT c
165 NEXT J: GO TO 5e3
170 IF d>2 THEN PRINT AT y,x; I
NK 6; " "; AT y+1,x; " "
175 LET x=x+2*(d=4)-2*(d=3); LE
T y=y+2*(d=6)-2*(d=5)
180 IF d<=2 THEN FOR v=n TO 1:
FOR v=n TO 1: PRINT AT y+v,n;: L
ET q=USR 32084: LET q=USR (32000
+(42 AND d=1)); NEXT v: NEXT u:
LET x=x+(2 AND d=2)-(2 AND d=1):
GO SUB 1e3: LET J=J-1: IF J THE
N GO TO 135
185 IF d<=2 THEN GO TO 5e3
190 GO SUB 1e3
200 LET a=ATTR (y,x)
205 IF a=54 THEN LET x=x+2*(d=3
)-2*(d=4): LET y=y+2*(d=5)-2*(d=
6)
207 GO SUB 1e3
210 IF a=42 THEN BEEP .005,30:
BEEP .005,25: LET sc=sc+104
220 IF a>63 THEN GO TO 6e3
230 IF a=48 THEN GO TO 7e3
240 LET sc=sc+10
250 BEEP .01,(12 AND d=6)+(d<>5
)+(5 AND d=3)+(17 AND d=4)
300 NEXT J: GO TO 5e3
1000 LET x=x+(32 AND x=-2)-(32 A
ND x=32): LET y=y+(20 AND y=-2)-
(20 AND y=20): RETURN
4000 CLS: PRINT AT 20,0; INK 0;
PAPER 6; "
=====
===== "
4005 LET b=2*INT (RND*15): PRINT
INK 2; PAPER 5; AT 20,b; "◀"; AT
21,b; "▶"

```



```

4010 PRINT AT 10,1;"press any ke
y when man appears"
er the flag"
4020 FOR a=1 TO 250: NEXT a
4030 PRINT AT 10,n;
4040 FOR y=n TO 18 STEP 2: FOR x
=n TO 30 STEP 2
4050 PRINT AT y,x;"A";AT y+1,x;
"π"
4060 FOR a=n TO 1: IF INKEY#<>""
THEN GO TO 4100
4070 NEXT a
4080 PRINT AT y,x;" ";AT y+1,x;
" "; NEXT x: NEXT y
4083 PRINT AT 10,n; FLASH 1;" FA
ILED! FAILED! FAILED! FAILED!"
4085 FOR a=255 TO n STEP -5: BEE
P .01,a/10: OUT 254,a: NEXT a
4087 FOR a=1 TO 50: NEXT a
4090 RETURN
4100 PRINT AT y,x;" ";AT y+1,x;
" "; FOR a=y+1 TO 20: PRINT AT
a,x;"A";AT a+1,x;"π"; PRINT AT
a-1,x;" "; BEEP .01,a: NEXT a
4110 IF x=b THEN LET sc=sc+4e3-(
50*y): PRINT AT 10,n; FLASH 1;"B
ONUS!! BONUS!! BONUS!! BONUS!!";
FOR b=1 TO 5: FOR a=30 TO 15 ST
EP -1: BEEP .005,a: NEXT a: NEXT
b: FOR a=1 TO 50: NEXT a: RETUR
N
4120 GO TO 4083
5000 PRINT AT 20,n;" "; FOR a=n
TO 255 STEP 5: BEEP .01,a/10: OU
T 254,a: NEXT a
5020 GO TO 7020
6000 PRINT INK n;AT y,x;"⊙";AT
y+1,x;"⊙"
6005 FOR b=1 TO 5: FOR a=30 TO 1
5 STEP -1: BEEP .005,a: NEXT a:
NEXT b
6010 LET sc=sc+1e3
6025 LET x=x+2-(4 AND x=30)
6027 PAUSE 50
6030 NEXT t: LET i=i-(i>14): LET
l=l+1
6035 GO SUB 4e3
6040 GO TO 5
7000 FOR a=1 TO 50: LET b=(a/2=I
NT (a/2)): PRINT INVERSE b; OVER
1;AT y,x;" ";AT y+1,x;" "; NE
XT a
7010 PRINT AT y,x; INK 7; PAPER
0;"☹";AT y+1,x;"☹"
7015 FOR a=1 TO 11: BEEP VAL (y#
(a))/4,VAL (x#(a))-1: NEXT a
7020 LET tv=tv-1: IF tv THEN GO
TO 5
7030 IF sc>hs THEN PRINT AT 21,1
7e3;" "; LET hs=sc: PRINT AT 19
,n; FLASH 1; INVERSE 1;"
, NEW HIGH SCORE!! "
7040 PRINT AT 20,n; FLASH 1;" P
RESS ANY KEY TO PLAY AGAIN "
7050 IF INKEY#<>"" THEN GO TO 70
50

```

```

7060 IF INKEY#="" THEN GO TO 706
0
7070 GO SUB 8230: GO TO 3
8000 BORDER n: PAPER n: BRIGHT n
: INVERSE n: OVER n: FLASH n: IN
K 7: CLS
8010 PRINT TAB 10; INK 2; PAPER
5; FLASH 1;"■■■■■"
8020 PRINT TAB 10; INK 2; PAPER
5; FLASH 1;" "; INK n: PAPER 6;
FLASH n;" TNT "; PAPER 5; INK
2; FLASH 1;" "
8030 PRINT TAB 10; INK 2; PAPER
5; FLASH 1;"■■■■■"
8035 PRINT " by CASWELL R PALM
ER "
8040 PRINT " THE OBJECT OF THIS
GAME IS TO DEFUSE THE TNT BEFO
RE THE TIME RUNS OUT THEN THE
BOMB EXPLODES IF THIS HAPPENS YOU
WILL LOSE ONE OF YOUR THREE
LIVES."
8050 PRINT "AFTER 5 SCREENS OF A
VOIDING THE SKULLS,GAINING POINT
S BY RUNING ON FLAGS AND DEFUSIN
G BOMBS, STAGE 2 IS REACHED:"
8060 PRINT " YOU MUST PRESS A KE
Y WHEN CAS IS OVER THE FLAG FOR
A BONUS OF UP TO 4000;THE QUICK
ER YOU ARE THE GREATER THE BONU
S!"
8070 PRINT " STAGE 1 THEN BEGINS
AGAIN BUT NOW WITH LESS TIME!!
HA HA!!"
8080 PRINT "GOOD LUCK!!! (YOU'LL
NEED IT!)"
8200 PRINT #1; FLASH 1;"PRESS AN
Y KEY TO START"
8210 IF INKEY#<>"" THEN GO TO 82
10
8220 IF INKEY#="" THEN GO TO 822
0
8230 CLS
8240 PRINT AT 5,5; FLASH 1;"ENTE
R LEVEL (0 TO 9)"" FLASH n;"
0 = EASY 9=HARD"
8245 PRINT AT 15,n;"-----
-----CONTROLS:-----"
" Z=LEFT X=RIGHT""
P=UP L=DOWN"
8247 PRINT " A=LEFT SCROLL""
S=RIGHT SCROLL"
8250 LET a$=INKEY#: IF a$<"0" OR
a$>"9" THEN GO TO 8250
8260 LET i=32-2*(VAL a$)
8270 RETURN
9000 RESTORE 9050: FOR a=USR "a"
TO USR "t"+7: READ b: POKE a,b:
NEXT a
9010 RESTORE 9100: FOR a=32000 T
O 32138: READ b: POKE a,b: NEXT
a
9030 RETURN
9050 DATA 15,79,63,9,11,30,60,63
,240,242,-4,144,176,120,60,-4,63
,63,b,47,6,b,30,62,-4,b,b,244,96
,96,120,124

```

```

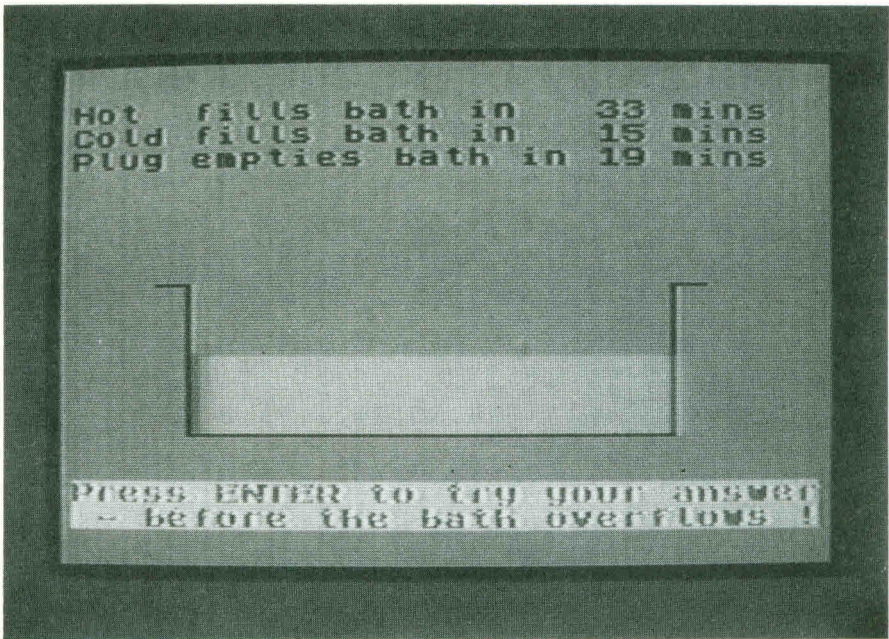
9051 DATA 7,31,b,57,b,63,29,7,10
3,242,-4,31,7,-1,-4,96,224,248,b
,156,b,-4,184,224,230,175,63,248
,224,127,63,6
9052 DATA 0,1,3,15,63,119,99,247
,244,245,b,117,127,63,15,3,192,1
28,192,240,-4,238,198,239,47,175
,175,174,-1,-4,240,192
9053 DATA n,3,14,62,126,62,14,3,
n,b,b,b,b,b,b,b,124,-4,60,-4,60,
-4,b,b,124,12,b,b,b,b,b,b
9054 DATA 1,3,15,31,63,b,127,99,
109,99,103,107,109,127,b,b,128,1
92,240,248,-4,-4,-2,70,66,70,94,
b,b,-2,b,b
9100 DATA 17,31,64,213,225,43,1,
31,0,26,237,184,35,119,58,2,125,
254,71,40,6,60,50,2,125,24,229,1
7,31,88,213,225,43,1,31,0,26,237
,184,35,119,201
9200 DATA 17,0,64,213,225,35,26,
1,31,0,237,176,43,119,58,44,125,
254,71,40,6,60,50,44,125,24,229,
17,0,88,213,225,35,26,1,31,0,237
,176,43,119,201
9300 DATA 42,132,92,34,43,125,12
4,198,7,50,18,125,1,31,0,0,34,1,
125,124,198,7,50,60,125,58,137,9
2,71,62,24,144,38,0,111,6,5,41,1
6,-3,17,31,88,25,34,28,125,17,22
5,-1,25,34,70,125,201
9400 BORDER 0
9500 PAPER 0

```

*Author:* C. R. Palmer



# Baths



Here you have a perfectly ordinary bath, with the hot and cold taps left running. The plug is out, but the taps will fill the bath faster than it will empty down the plughole. If we tell you how long each tap takes to fill the bath by itself and how long it takes the bath to empty without the taps being on, can you say how long it will now take the bath to fill up? You have to do it before the bath on the screen fills up ... Don't get wet feet!

```
100 DIM m$(30)
210 RANDOMIZE
255 GO TO 1000
300 REM ** Message **
310 PRINT AT 20,1; BRIGHT 1; FL
ASH 1; PAPER 5; INK 0;m$
320 GO SUB 400
330 IF INKEY#(">") THEN GO TO 33
0
335 LET k#=INKEY#; IF k#="" THE
N GO TO 335
337 IF k#>="A" AND k#<="Z" THEN
LET k#=CHR# (CODE (k#)-32)
340 PRINT AT 20,1;"
345 RETURN
350 REM ** Instruction **
360 PRINT AT 20,1; BRIGHT 1; PA
PER 6; INK 0;m$
```

```

395 RETURN
400 REM ** Pips **
410 FOR i=1 TO 2
420 BEEP 0.05,50: PAUSE 2
430 NEXT i
445 RETURN
450 REM ** Draw border **
460 PRINT AT 0,0:"█": FOR i=1 T
0 20: PRINT AT i,0:"█": NEXT i
465 PRINT AT 21,0:"█": FOR i=1
TO 30: PRINT AT 21,i:"█": NEXT i
470 PRINT AT 21,31:"█": FOR i=2
0 TO 1 STEP -1: PRINT AT i,31:"█":
NEXT i
475 PRINT AT 0,31:"█": FOR i=30
TO 1 STEP -1: PRINT AT 0,i:"█":
NEXT i
495 RETURN
500 REM ** Raspberry **
510 BEEP 1,16: BEEP 1,12
520 BEEP .5,25: FOR x=23 TO 17
STEP -.5: BEEP .1,x: PAUSE 2: N
EXT x
545 RETURN
550 REM ** Congratulations **
555 RESTORE 570
560 READ n,p: BEEP n*0.25,p: IF
n>0 THEN GO TO 560
570 DATA 1,12,1,14,1,16,2,17,2,
5,13
572 DATA 1,17,1,18,1,17,2,19,2,
5,14
574 DATA 1,14,1,16,1,17,1,5,21,
0,3,19
576 DATA 1,19,1,17,1,17,1,16,1,
14,1,16,3,17
580 DATA 0,0
595 RETURN
700 REM * Function to get clock
time in seconds - FN t()
710 DEF FN m(x,y)=(x+y+ABS (x-y
))/2
720 DEF FN u()=(65536*PEEK 2367
4+256*PEEK 23673+PEEK 23672)/50
730 DEF FN t()=FN m(FN u(),FN u
())
999 REM
1000 REM ** Show instructions **
1001 REM
1040 BORDER 2: PAPER 0: INK 0: C
LS
1050 RESTORE 8000
1060 PRINT AT 1,0:
1070 READ i$: IF i$<>"0" THEN PR
INT i$: GO TO 1070
1075 DIM i$(32)
1080 FOR i=21 TO 0 STEP -1: PRIN
T AT i,0: PAPER 5: OVER 1:i$: PA
USE 20: NEXT i
1100 PAPER 7
1200 PRINT #0:"Press any key to
continue...": PAUSE 0
1999 REM
2000 REM ** Generate puzzle **
2001 REM
2050 RANDOMIZE
2060 LET hot=5+INT (RND*30)
2070 LET cold=5+INT (RND*30)
2080 LET empty=5+INT (RND*30)

```

```

2090 IF empty<hot AND empty<cold
  THEN GO TO 2080
2100 LET time=(hot*cold*empty)/(
hot * empty + cold * empty - hot
* cold)
2110 LET time=INT (time+0.5)
2099 REM
3000 REM ** Show bath filling **
3001 REM
3010 PAPER 7: INK 0
3020 CLS : GO SUB 450
3050 LET l1=2
3060 PRINT AT l1,1;"Hot fills b
ath in ";hot;" mins"
3070 PRINT AT l1+1,1;"Cold fills
bath in ";cold;" mins"
3080 PRINT AT l1+2,1;"Plug empti
es bath in ";empty;" mins"
3100 LET bottom=47: LET depth=50
3120 PLOT 37,bottom+depth
3130 DRAW 10,0: DRAW 0,-depth
3140 DRAW 150,0
3150 DRAW 0,depth: DRAW 10,0
3200 FOR i=23674 TO 23672 STEP -
1: POKE i,0: NEXT i: REM Set clo
ck to zero
3210 LET tpl=1: LET water=0
3240 PRINT AT 18,1: FLASH 1: BRI
GHT 1;"Press ENTER to try your a
nswer";AT 19,1;" - before the ba
th overflows!"
3250 IF FN t()>water*tpl THEN LE
T water=water+1: PLOT INK 5;48,b
ottom+water: DRAW INK 5;151,0: B
EEP .1,15
3270 IF water>depth THEN GO TO 5
000: REM End of time limit
3300 IF INKEY#>" " THEN GO TO 400
0: REM Get answer
3350 GO TO 3250
3000 REM
4000 REM ** Get answer **
4001 REM
4020 DIM w$(30): PRINT AT 18,1;w
$:AT 19,1;w$
4050 INPUT "Time - to nearest mi
nute ? "; LINE r$
4060 LET answer=VAL r$
4070 LET answer=INT (answer+0.5)
4080 IF answer=time THEN LET ok=
1
4090 IF answer<>time THEN LET ok
=0
4499 REM
4500 REM ** Check answer **
4501 REM
4550 IF ok=1 THEN GO TO 4570
4560 LET m$="WRONG ! Try again
- quick !": GO SUB 350: GO SUB 5
00: PAUSE 0
4565 LET m$="": PRINT AT 20,1;m$
: GO TO 3240
4570 IF ok=1 THEN LET m$="Saved
from the flood!": GO SUB 350: GO
SUB 550: PAUSE 0
4580 LET m$="Do you want another
try ?": GO SUB 300

```



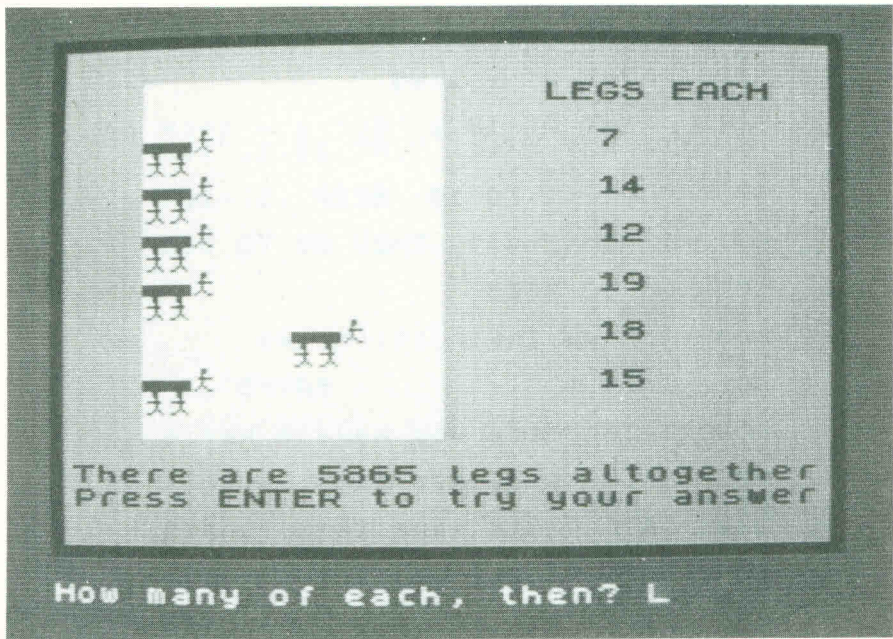
```

4590 IF K#(<>"y") THEN PAPER 7: IN
K 0: CLS : GO TO 9999
4610 GO TO 2000
49000 REM
50000 REM ** End of time limit **
50001 REM
50005 DIM w$(30)
50007 PAPER 5
50010 FOR i=10 TO 20
50020 PRINT AT i,1;w$
50030 NEXT i
5050 PRINT AT 10,1;"Sorry - this
puzzle has come ";AT 10,1;"to
a watery end!"
5060 FOR i=1 TO 10: BEEP .1,-10+
RND*30: NEXT i
5070 IF INKEY#="" THEN GO TO 506
0
5080 GO TO 2000
7000 REM
80000 REM ** Instructions **
80001 REM
80010 DATA " BATHS","
80020 DATA "Here you have a perfe
ctly "
80030 DATA "ordinary bath, with t
he hot and "
80040 DATA "cold taps left runnin
g."
80070 DATA "The plug is out, but
the taps "
80080 DATA "will fill the bath fa
ster than"
80090 DATA "it will empty down th
e plughole."
81000 DATA "If we tell you how lo
ng each tap"
81100 DATA "takes to fill the bat
h by itself"
81200 DATA "and how long it takes
the bath"
81300 DATA "to empty without the
taps on,"
81400 DATA "can you say how long
it will now"
81500 DATA "take the bath to fill
up?"
81600 DATA "You have to do it bef
ore the "
81700 DATA "bath on the screen fi
lls up..."
81800 DATA "Don't get wet feet!"
81900 DATA "©"
89900 GO TO 9999
90000 INPUT "File to save ? "; LI
NE f$
90010 SAVE "m";1)f$
90020 GO TO 9999
91000 INPUT "File to erase ? "; L
INE f$
91100 ERASE "m";1)f$
91200 GO TO 9999

```

*Author:* K. Kenyon

# Insects



In this puzzle you have several insects, each with a different number of legs. There is the same number of each type of bug. We tell you the number of legs on each type and the total number of legs on all the insects. You tell us how many of each type of insect there are.

```

10 REM *** INSECTS ***
15 REM
100 DIM m$(30)
210 RANDOMIZE
295 GO TO 1000
300 REM ** Message **
310 PRINT AT 20,1; BRIGHT 1; FL
ASH 1; PAPER 5; INK 0;m$
320 GO SUB 400
330 IF INKEY$("<") THEN GO TO 33
0
335 LET k$=INKEY$; IF k$="" THE
N GO TO 335
337 IF k$>="A" AND k$<="Z" THEN
LET k$=CHR$(CODE (k$)-32)
340 PRINT AT 20,1;"
345 RETURN
350 REM ** Instruction **
360 PRINT AT 20,1; BRIGHT 1; PA
PER 5; INK 0;m$

```

```

395 RETURN
400 REM ** Pips **
410 FOR i=1 TO 3
420 BEEP 0.05,50: PAUSE 2
430 NEXT i
440 RETURN
450 REM ** Draw border **
460 PRINT AT 0,0;"": FOR i=1 T
0 20: PRINT AT i,0;"": NEXT i
465 PRINT AT 21,0;"": FOR i=1
TO 30: PRINT AT 21,i;"": NEXT i
470 PRINT AT 21,31;"": FOR i=2
0 TO 1 STEP -1: PRINT AT i,31;"
": NEXT i
475 PRINT AT 0,31;"": FOR i=30
TO 1 STEP -1: PRINT AT 0,i;"":
NEXT i
485 RETURN
500 REM ** Raspberry **
510 BEEP 1,16: BEEP 1,12
520 BEEP .5,25: FOR x=23 TO 17
STEP -.5: BEEP .1,x: PAUSE 2: N
EXT x
545 RETURN
550 REM ** Congratulations **
560 RESTORE 570
580 READ n,p: BEEP n*0.25,p: IF
n>0 THEN GO TO 580
570 DATA 1,12,1,14,1,16,2,17,2,
5,18
572 DATA 1,17,1,16,1,17,2,19,2,
5,14
574 DATA 1,14,1,16,1,17,1.5,21,
0.5,10
576 DATA 1,19,1,17,1,17,1,16,1,
14,1,16,3,17
580 DATA 0,0
590 RETURN
6000 REM
1000 REM ** INSTRUCTIONS **
1010 REM
1050 PAPER 6: INK 1: CLS
1060 LET l=3
1070 RESTORE 8000: READ i$
1080 LET l=l+1: LET li=LEN i$
1090 FOR i=li TO 1 STEP -1: PRIN
T AT l,1;i$(i TO ): NEXT i
1095 IF i$>" " THEN BEEP .1,12
1100 READ i$: IF i$(1)<>"0" THEN
GO TO 1080
1150 LET m$="Press any key to co
ntinue...": GO SUB 300
1200 REM
2000 REM ** Set up puzzle **
2001 REM
2050 LET ni=4+INT (RND*3)
2060 DIM l(ni)
2070 FOR i=1 TO ni
2080 LET l(i)=8+INT (RND*14)
2083 LET used=0
2085 FOR j=1 TO i-1
2087 IF l(j)=l(i) THEN LET used=
1
2090 NEXT j
2091 IF used=1 THEN GO TO 2080
2095 NEXT i
2100 LET neach=20 + INT (RND*79)

```



```

2120 LET legtot=0
2140 FOR i=1 TO ni
2150 LET legtot=legtot + neach*(i)
2160 NEXT i
2999 REM
3000 REM ** Display screen **
3001 REM
3050 BORDER 3: PAPER 4: INK 0: 0
LS
3055 GO SUB 450
3060 PRINT AT 2,20;"LEGS EACH"
3070 FOR i=2 TO 16
3080 PRINT AT i,1; INK 4;" ";
PAPER 8; INK 0;" ";
APER 4; INK 4;" "
3090 NEXT i
3100 LET a#="—▲"; LET b#="▲▲"
3200 FOR i=1 TO ni
3210 LET l=i*2 + 2
3220 PRINT PAPER 8; INK 8;AT l,4
(a#)AT l+1,4;b#
3230 PRINT AT l,22;l(i)
3240 NEXT i
3260 PRINT AT 18,1;"There are ";
legtot;" legs altogether"
3270 PRINT AT 19,1;"Press ENTER
to try your answer"
3300 FOR i=1 TO ni
3310 LET l=i*2 + 2
3315 LET f=1
3320 FOR c=4 TO 15
3330 GO SUB 3800: REM Print inse
ct
3340 IF INKEY#>" " THEN GO TO 400
0
3350 NEXT c
3355 LET f=0
3360 FOR c=1 TO 3
3370 GO SUB 3800
3380 IF INKEY#>" " THEN GO TO 400
0
3390 NEXT c
3400 NEXT i
3500 GO TO 3300
3800 REM * Print insect at l,c
3810 REM f decides whether legs
flash or not
3820 PRINT AT l+1,c; PAPER 8; IN
K 8;" "; FLASH f;b#
3830 BEEP .02,25
3840 PRINT AT l,c; PAPER 8; INK
8;" "a#
3850 BEEP .02,0
3890 RETURN
3999 REM
4000 REM ** Get answer **
4001 REM
4050 INPUT "How many of each, th
en? "; LINE r#
4070 LET ans=VAL r#
4100 IF ans=neach THEN LET m#="W
ell counted - you're RIGHT !"; G
O SUB 350: GO SUB 550: PAUSE 0
4120 IF ans<>neach THEN LET m#="
Sorry - you missed one !"; GO
SUB 350: GO SUB 500: PAUSE 0

```

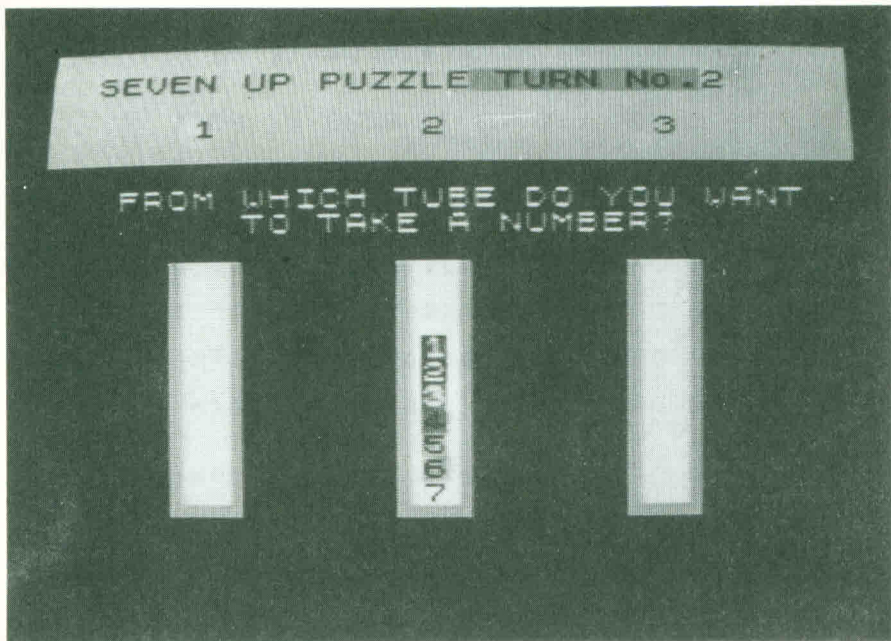
```

4150 LET m#="Do you want another
go ? (Y/N)": GO SUB 300
4170 IF k#<>"y" THEN CLS : GO TO
3000
4180 IF ans=neach THEN GO TO 200
0
4190 GO TO 3000
8000 REM
7000 REM ** Generate UDG's **
7001 REM
7050 RESTORE 8000
7070 FOR i=0 TO 7: READ x: POKE
USR "a"+i,x: NEXT i
7080 FOR i=0 TO 7: READ x: POKE
USR "b"+i,x: NEXT i
8000 DATA " INSECTS","
8010 DATA "In this puzzle you ha
ve several"
8020 DATA "insects, each with a
different"
8030 DATA "number of legs. Ther
e is the"
8040 DATA "same number of each t
ype of"
8050 DATA "bug.", " "
8060 DATA "We tell you the numbe
r of legs"
8070 DATA "on each type and the
total"
8080 DATA "number of legs on all
the"
8090 DATA "insects. You tell us
how many"
8100 DATA "of each type there ar
e."
8110 DATA " ", "Simple, eh? Well
"
8120 DATA "0"
8200 DATA BIN 01100110
8210 DATA 255
8220 DATA BIN 10011001
8230 DATA BIN 10011001
8240 DATA 255
8250 DATA BIN 10100101
8260 DATA BIN 01111110
8270 DATA BIN 00111100
8300 DATA 204,204,204,204,204,20
4,204,204
8990 GO TO 9999
9000 INPUT "File to save ? "; LI
NE f#
9010 SAVE "*" ; 1) f#
9020 GO TO 9999
9100 INPUT "File to erase ? "; L
INE f#
9110 ERASE "*" ; 1) f#
9120 GO TO 9999

```

*Author:* E. S. Pledger

# Seven Up



In a similar vein to the Towers of Hanoi, the aim is to move all the numbers from the centre tube to either of the outer tubes, without putting a larger number on a smaller one.

```

10 GO SUB 430
20 LET A=0: LET I=9: LET P=0:
LET T=1: BORDER 0: PAPER 0: INK
7: CLS
30 FOR n=19 TO 21: PRINT AT n,
0: PAPER 0: " " NEXT n
40 FOR n=18 TO 9 STEP -1: PRIN
T AT n,5: PAPER 7: INK 6: " "
T n,14: " " AT n,23: " " AT n,
0: PAPER 0: " " AT n,8: " "
n: AT n,17: " " AT n,26: "
" NEXT n
50 PRINT AT 19,5: INK 6: PAPER
0: " " AT 19,14: " " AT 19,23
: "
60 FOR n=0 TO 4: PRINT AT n,0:
PAPER 6: "
" NEXT n: PRINT AT 3,
6: PAPER 6: INK 0: "1": TAB 15: "2"
TAB 24: "3"
70 PRINT AT 1,2: BRIGHT 1: INK
0: PAPER 6: "SEVEN UP PUZZLE": B

```



```

RIGHT 0;" TURN No.;"T
80 FOR n=1 TO 7: PRINT AT n+11
,15: PAPER n: INK 9:n: NEXT n
90 GO SUB 570: GO SUB 490: PRI
NT AT 6,3:"FROM WHICH TUBE DO YO
U WANT          TO TAKE A NUMBER
?"
100 PRINT AT 1,25: INK 0: PAPER
6:T
110 LET T=T+1
120 LET A#=INKEY$
130 PAUSE 0
140 IF INKEY#<>"1" AND INKEY#<>
"2" AND INKEY#<>"3" THEN GO TO 1
40
150 GO TO 160
160 IF INKEY#="1" THEN LET A=6
170 IF INKEY#="2" THEN LET A=15
180 IF INKEY#="3" THEN LET A=24
190 IF ATTR (18,A)>=62 THEN GO
SUB 570: PRINT AT 6,8:"TUBE IS E
MPTY !": BEEP .1,12: BEEP .1,36:
FOR N=1 TO 150: NEXT N: BEEP .2
,12: GO TO 90
200 FOR N=12 TO 18
210 IF ATTR (N,A)=15 THEN LET Q
#="1": PRINT AT N,A: PAPER 7:" "
: LET X=N: LET Y=A: LET S#=Q#: L
ET P=1: GO TO 290
220 IF ATTR (N,A)=23 THEN LET Q
#="2": PRINT AT N,A: PAPER 7:" "
: LET X=N: LET Y=A: LET S#=Q#: L
ET P=2: GO TO 290
230 IF ATTR (N,A)=31 THEN LET Q
#="3": PRINT AT N,A: PAPER 7:" "
: LET X=N: LET Y=A: LET S#=Q#: L
ET P=3: GO TO 290
240 IF ATTR (N,A)=32 THEN LET Q
#="4": PRINT AT N,A: PAPER 7:" "
: LET X=N: LET Y=A: LET S#=Q#: L
ET P=4: GO TO 290
250 IF ATTR (N,A)=40 THEN LET Q
#="5": PRINT AT N,A: PAPER 7:" "
: LET X=N: LET Y=A: LET S#=Q#: L
ET P=5: GO TO 290
260 IF ATTR (N,A)=48 THEN LET Q
#="6": PRINT AT N,A: PAPER 7:" "
: LET X=N: LET Y=A: LET S#=Q#: L
ET P=6: GO TO 290
270 IF ATTR (N,A)=56 THEN LET Q
#="7": PRINT AT N,A: PAPER 7:" "
: LET X=N: LET Y=A: LET S#=Q#: L
ET P=7: GO TO 290
280 NEXT N
290 GO SUB 570: PRINT AT 6,8:"I
NTO WHICH TUBE?"
300 PRINT AT 21,2: INK 7:"THE N
UMBER BEING MOVED IS "; PAPER P;
INK 1,Q#
310 LET A#=INKEY$
320 PAUSE 0
330 IF INKEY#<>"1" AND INKEY#<>
"2" AND INKEY#<>"3" THEN GO TO 3
30
340 IF INKEY#="1" THEN LET A=6
350 IF INKEY#="2" THEN LET A=15
360 IF INKEY#="3" THEN LET A=24

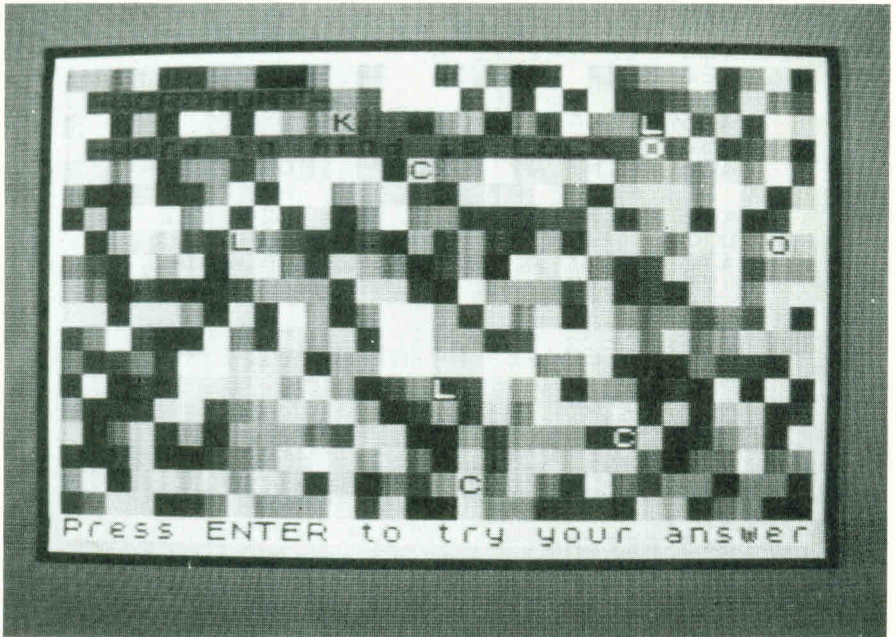
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```

370 PRINT AT 21,2;"
380 FOR F=18 TO 12 STEP -1: IF
ATTR (F,A)>=52 THEN PRINT AT F,A
: INK 1: PAPER P:0$: BEEP .02,44
: GO SUB 400: GO TO 90
390 NEXT F
400 IF ATTR (F+1,A)=6 THEN RETU
RN
410 IF ATTR (F,A)>ATTR (F+1,A)
THEN BEEP .2,12: BEEP .2,36: GO
SUB 570: PRINT AT 6,0:"YOU TRIED
TO PUT A LARGER NUMBER ON TO
P OF A SMALLER ONE": FOR O=1 TO
200: NEXT O: BEEP .2,12: PRINT A
T F,A: PAPER 7:" ": PRINT AT X,Y
: PAPER P: INK 1:5$: LET N=N+1
420 RETURN
430 PAPER 6: INK 0: BORDER 6: C
LS
440 PRINT AT 2,10:"""SEVEN UP""
450 PRINT ""THE AIM OF THE PUZ
ZLE IS TO MOVE""TAB 1:"ALL THE
NUMBERS FROM THE CENTRE""TAB 3:
"UBE TO EITHER OF THE OUTER""T
AB 1:"TUBES, WITHOUT PUTTING A LA
RGER""TAB 1:"NUMBER ON TOP OF A
SMALLER ONE."
460 PRINT ""YOU SHOULD THEN HAV
E THE COLUMN""TAB 2:"OF NUMBERS
IN THE SAME ORDER""TAB 4:"BUT
IN A DIFFERENT TUBE."
470 PRINT #0;AT 0,3:"PRESS ANY
KEY TO CONTINUE."
480 PAUSE 0: RETURN
490 IF ATTR (12,6)=15 AND ATTR
(13,6)=23 AND ATTR (14,6)=31 AND
ATTR (15,6)=32 AND ATTR (16,6)=
40 AND ATTR (17,6)=48 AND ATTR (
18,6)=56 THEN FOR N=1 TO 150: NE
XT N: CLS : GO TO 520
500 IF ATTR (12,24)=15 AND ATTR
(13,24)=23 AND ATTR (14,24)=31
AND ATTR (15,24)=32 AND ATTR (16
,24)=40 AND ATTR (17,24)=48 AND
ATTR (18,24)=56 THEN PAUSE 100:
CLS : GO TO 520
510 RETURN
520 PAPER 6: INK 0: BORDER 6: C
LS : PRINT AT 10,11:"WELL DONE";
: TAB 4:"YOU DID IT IN ";T;" MOU
ES"
530 PRINT AT 21,0:"WOULD YOU LI
KE ANOTHER GO? Y/N"
540 PAUSE 0
550 IF INKEY#="N" OR INKEY#="n"
THEN STOP
560 RUN
570 PRINT AT 5,0)"
" : RETURN
580 CLS : SAVE "SEVEN UP" LINE
1

```

# Word Hunt



This puzzle is not difficult, but you may have to do a bit of searching. Scattered around the screen are the letters of a short English word. Each letter may be repeated more than once. All you have to do is find how many times the word can be made up from the letters on the screen. Each letter can be used more than once.

```

10 DIM *****
20 DIM *****
30 DIM WORD HUNT
40 DIM *****
50 DIM *****
100 DIM M$(30)
200 RANDOMIZE
300 GO TO 1000
300 DIM ** MESSAGE **
310 PRINT AT 20,1: BRIGHT 1: FL
ASH 1: PAPER 5: INK 0:M$
320 GO SUB 400
330 IF INKEY#(">") THEN GO TO 30
335 LET K#=INKEY#: IF K#="" THE
N GO TO 335
337 IF K#="A" AND K#<="Z" THEN
LET K#=CHR# (CODE (K#)-32)

```



```

340 PRINT AT 20,1;"
345 RETURN
350 REM ** Instruction **
360 PRINT AT 20,1; BRIGHT 1: PA
PER 5: INK 0;m#
365 RETURN
400 REM ** Pips **
410 FOR i=1 TO 2
420 BEEP 0.05,50: PAUSE 2
430 NEXT i
440 RETURN
450 REM ** Draw border **
460 PRINT AT 0,0;"█": FOR i=1 T
O 30: PRINT AT i,0;"█": NEXT i
465 PRINT AT 21,0;"█": FOR i=1
TO 30: PRINT AT 21,i;"█": NEXT i
470 PRINT AT 21,31;"█": FOR i=2
0 TO 1 STEP -1: PRINT AT i,31;"█
": NEXT i
475 PRINT AT 0,31;"█": FOR i=30
TO 1 STEP -1: PRINT AT 0,i;"█":
NEXT i
485 RETURN
500 REM ** Raspberry **
510 BEEP 1,16: BEEP 1,12
520 BEEP .5,25: FOR x=23 TO 17
STEP -.5: BEEP .1,x: PAUSE 2: N
EXT x
545 RETURN
550 REM ** Congratulations **
555 RESTORE 570
560 READ n,p: BEEP n*0.25,p: IF
n>0 THEN GO TO 560
570 DATA 1,12,1,14,1,16,2,17,2,
5,12
572 DATA 1,17,1,16,1,17,2,19,2,
5,14
574 DATA 1,14,1,16,1,17,1,5,21,
0,5,19
576 DATA 1,19,1,17,1,17,1,16,1,
14,1,16,3,17
580 DATA 0,0
585 RETURN
590 REM
1000 REM ** Show instructions
1001 REM
1050 RESTORE 8000
1060 PRINT AT 2,0;
1070 READ i#
1080 IF i#(1)="@" THEN GO TO 120
0
1100 PRINT i#
1110 BEEP .2,INT (RND*25)
1140 GO TO 1070
1200 LET m#="Press any key to co
ntinue...": GO SUB 300
1999 REM
2000 REM ** Generate puzzle **
2001 REM
2040 LET m#="Choosing the word n
ow...": GO SUB 350
2050 RANDOMIZE
2070 LET n=9+INT (RND*3)
2080 DIM s$(n)
2110 RESTORE 8200
2120 LET z=1+INT (RND*10)
2130 FOR i=1 TO z

```

```

2135 READ W#
2140 NEXT I
2150 LET S#=""
2160 FOR I=LEN W#+1 TO N
2170 LET Z=1+INT (RND*4)
2180 LET S#(I)=W#(Z)
2190 NEXT I
2200 LET ways=0
2210 FOR a=1 TO n
2220 FOR b=a+1 TO n
2230 FOR c=b+1 TO n
2240 FOR d=c+1 TO n
2250 IF S#(a)<>S#(b) AND S#(a)<>
S#(c) AND S#(a)<>S#(d) AND S#(b)
<>S#(c) AND S#(b)<>S#(d) AND S#(
c)<>S#(d) THEN LET ways=ways+1
2260 NEXT d
2270 NEXT c
2280 NEXT b
2290 NEXT a
2300 REM
3000 REM ** Display puzzle **
3001 REM
3050 BORDER 0: PAPER 7: INK 0: C
LS : GO SUB 450
3070 FOR l=1 TO 19
3080 FOR c=1 TO 30
3090 PRINT AT l,c: PAPER INT (RN
D*8): " "
3100 NEXT c
3110 NEXT l
3170 PRINT AT 2,2: PAPER 2: INK
8: "-WORDHUNT-"
3180 PRINT AT 4,2: PAPER 2: INK
8: "-Word to find is:" W#:" "
3200 FOR i=1 TO n
3210 LET l=1+INT (RND*19)
3220 LET c=1+INT (RND*30)
3230 IF SCREEN# (l,c)>" " THEN G
O TO 3210
3240 PRINT AT l,c: OVER 1: PAPER
8: INK 9: S#(i)
3250 NEXT i
3300 LET M#="Press ENTER to try
your answer"
3310 GO SUB 350
3400 BEEP .1,INT (RND*25)
3410 PAUSE 40
3420 IF INKEY#>" " THEN GO TO 400
0
3430 GO TO 3400
3999 REM
4000 REM ** Get answer **
4001 REM
4050 INPUT PAPER 6: INK 0: "How m
any ways to do it ? ": LINE r#
4055 IF r#="" THEN GO TO 4050
4056 LET ok=1
4057 FOR i=1 TO LEN r#: IF r#(i)
<"0" OR r#(i)>"9" THEN LET ok=0
4058 NEXT i
4059 IF ok=0 THEN GO TO 4050
4060 LET answer=VAL r#
4070 LET ok=0
4080 IF answer=ways THEN LET ok=
1
4499 REM
4500 REM ** Check answer **

```

```

4501 REM
4550 IF ok=0 THEN LET m#="Sorry
- you must look harder !"; GO SU
B 350: GO SUB 500: PAUSE 0
4570 IF ok=1 THEN LET m#="Absolu
tely right - all found !"; GO SU
B 350: GO SUB 550: PAUSE 0
4580 LET m#="Want another look ?
(Y/N)"; GO SUB 300
4590 IF k#<>"y" THEN PAPER 7: IN
K 0: CLS : GO TO 9999
4600 IF ok=0 THEN GO TO 4000
4610 IF ok=1 THEN GO TO 2000
7000 REM
8000 REM ** Instruction data **
8001 REM
8010 DATA "          WORD HUNT","
"
8020 DATA "This puzzle is not di
fficult,"
8030 DATA "but you may have to d
o a bit of"
8040 DATA "searching.  "
8050 DATA "Scattered around the
screen are"
8060 DATA "the letters of a shor
t English"
8070 DATA "word.  Each letter ma
y be"
8080 DATA "repeated more than on
ce."
8090 DATA "All you have to do is
find how"
8100 DATA "many times the word c
an be"
8110 DATA "made up from the lett
ers on the"
8120 DATA "screen.  Each letter
can be used"
8130 DATA "more than once.," " "
8140 DATA "Now, look carefully.,
"
8190 DATA "©"
8200 REM ** Words **
8210 DATA "RIDE","HUNT","GIRL","
GAME","TILE","LOCK","GATE","NAIL
","BONE","SWAN"
8400 REM ** Data for score posit
ions
8410 DATA 0,11,10,15
8420 DATA 0,15,12,10
8430 DATA 0,13,15,17
8440 DATA 0,10,0,17
8450 DATA 15,13,12,11
8990 GO TO 9999
9000 INPUT "File to save ? "; LI
NE f#
9010 SAVE "#";1;f#
9020 GO TO 9999
9100 INPUT "File to erase ? "; L
INE f#
9110 ERASE "#";1;f#
9120 GO TO 9999
9200 PAPER 7: INK 0: CLS : GO TO
9999

```

Author: D. Curran



# Coloured Tiles



This program is a type of two-dimensional Rubik's Cube puzzle. The object is to rearrange the jumbled tiles to create columns of the same colour and these columns must be beneath the corresponding colour in the single row of colours at the top of the screen. The characters to the left and top of the tiles are the keys to be pressed to move that row or column left or up by one tile. For example, if "6" is pressed the whole column is moved up one place with the top tile being transferred to the bottom of the column.

```

10 POKE 23658,8: DIM C(28): LL
T EX=0: LET MD=0
20 LET A$="COLOURED TILES": LE
T Y=7: LET X=0: GO SUB 9000
30 LET A$="BY SEEKAN LEE 1984"
: LET Y=5: LET X=2: GO SUB 9000
40 LET A$="PRESS": LET Y=0: LE
T X=10: GO SUB 9000
50 LET A$="1 FOR JUMBLED UP TI
LES": LET Y=2: LET X=12: GO SUB
9000
60 LET A$="2 FOR THE COMPLETED
PATTERN": LET Y=2: LET X=14: GO
SUB 9000
70 LET B$=INKEY$

```

```

80 IF B$="1" THEN PRINT AT 12,
3; FLASH 1; OVER 1;" ": BEEP .5,
25; GO TO 150
90 IF B$="2" THEN LET EX=1; PR
INT AT 14,3; FLASH 1; OVER 1;" "
: BEEP .5,25; GO TO 250
100 GO TO 70
150 FOR F=1 TO 28: LET C(F)=30:
NEXT F
160 FOR N=1 TO 4: FOR F=0 TO 6
170 LET TI=INT (RND*28)+1
180 IF C(TI)<>30 THEN GO TO 170
190 LET C(TI)=F: NEXT F: NEXT N
200 GO TO 1000
250 FOR N=0 TO 3: FOR F=0 TO 6:
LET C((N*7)+F+1)=F: NEXT F: NEX
T N
260 GO TO 1000
1010 CLS : LET A$="COLOURED TILE
S": LET Y=7: LET X=0: GO SUB 900
0
1015 FOR N=0 TO 6: PRINT AT 2,8+
(N*2); PAPER N;" ": PRINT AT 3,
8+(N*2); PAPER N;" ": NEXT N
1020 FOR T=0 TO 3: LET ROW=(T*7)
+1: LET R=8+(T*2): GO SUB 4000:
NEXT T
1025 LET CHLEN=10: LET RES=9900:
GO SUB 1200: PRINT AT 21,0;" "
1030 PRINT AT 2,22;"MOVES="
1035 PRINT AT 8,23;"PRESS";AT 9,
23;"""M"" TO";AT 10,23;"ABORT"
1040 PRINT AT 2,28;MO
1045 LET B$=INKEY#
1047 IF B$="M" THEN BEEP .1,10:
BEEP .4,5: CLS : GO TO 5090
1050 IF B$="1" THEN LET ROW=1: L
ET R=8: GO TO 2000
1055 IF B$="0" THEN LET ROW=8: L
ET R=10: GO TO 2000
1060 IF B$="A" THEN LET ROW=15:
LET R=12: GO TO 2000
1065 IF B$="Z" THEN LET ROW=22:
LET R=14: GO TO 2000
1066 IF B$="4" THEN LET COL=1: G
O TO 2500
1067 IF B$="5" THEN LET COL=2: G
O TO 2500
1068 IF B$="6" THEN LET COL=3: G
O TO 2500
1070 IF B$="7" THEN LET COL=4: G
O TO 2500
1075 IF B$="8" THEN LET COL=5: G
O TO 2500
1080 IF B$="9" THEN LET COL=6: G
O TO 2500
1085 IF B$="0" THEN LET COL=7: G
O TO 2500
1090 GO TO 1040
1210 RESTORE RES: FOR G=0 TO CHL
EN: READ D$: READ M: READ N: PRI
NT INK 6;AT 21,0;D$
1220 FOR Q=1 TO 6: FOR F=1 TO 6
1240 IF POINT (Q,F)=1 THEN BEEP
.001,50: PLOT M*8+(Q*2),N*8+(F*2
)
1250 NEXT F: NEXT Q

```

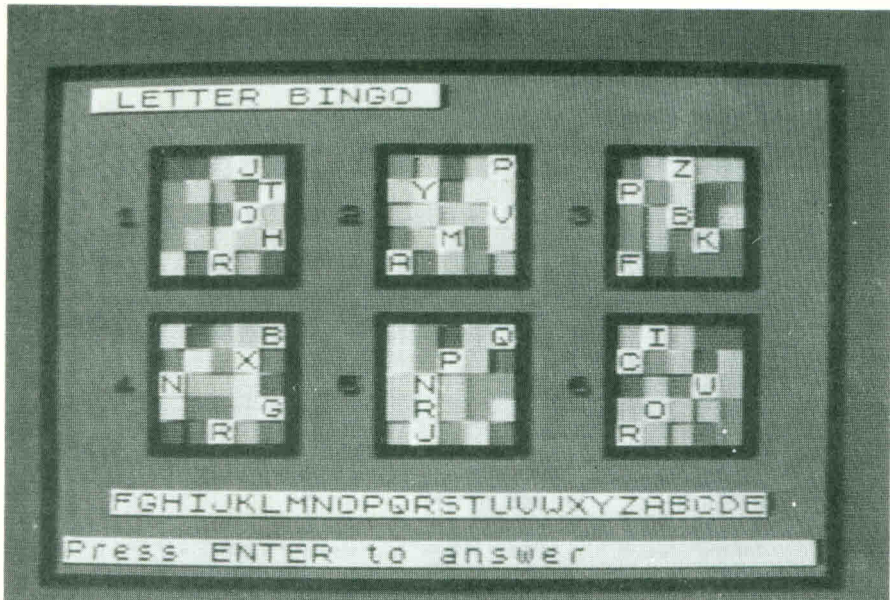
```

1260 NEXT G
1270 RETURN
2000 LET SP=C(ROW): FOR N=ROW TO
ROW+5: LET C(N)=C(N+1): NEXT N:
LET C(ROW+5)=SP
2010 GO SUB 4000
2020 GO TO 3000
2500 LET SP=C(COL): FOR N=COL TO
COL+14 STEP 7: LET C(N)=C(N+7):
NEXT N: LET C(COL+21)=SP
2510 GO SUB 4100
3000 BEEP .05,30: LET MO=MO+1: I
F EX=1 THEN GO TO 1040
3005 FOR P=0 TO 3: FOR O=0 TO 6
STEP 2
3010 IF C((P*7)+(O+1))<>0 THEN G
O TO 1040
3020 NEXT O: NEXT P: GO TO 5000
4000 FOR N=2 TO 14 STEP 2: PRINT
AT R,N+5: PAPER C(ROW-1+(N/2)):
" ": PRINT AT R+1,N+5: PAPER C(
ROW-1+(N/2)): " ": NEXT N
4010 RETURN
4100 FOR N=2 TO 8 STEP 2: PRINT
AT N+5,(COL*2)+5: PAPER C((7*((N
/2)-1))+COL): " ": PRINT AT N+7,
(COL*2)+5: PAPER C((7*((N/2)-1))
+COL): " ": NEXT N
4110 RETURN
5000 CLS: LET A$="CONGRATULATIO
NS!": LET Y=6: LET X=9: GO SUB 9
000
5040 LET A$="NO OF MOVES=": LET
X=11: LET Y=6: GO SUB 9000: PRIN
T AT 11,19:MO: LET A$="RATING-":
LET X=13: LET Y=6: GO SUB 9000
5050 IF MO<=75 THEN LET A$="AMAZ
ING!": LET X=13: LET Y=13: GO SU
B 9000
5060 IF MO>=76 AND MO<=100 THEN
LET A$="GOOD": LET X=13: LET Y=1
3: GO SUB 9000
5070 IF MO>=101 AND MO<=200 THEN
LET A$="NOT BAD": LET X=13: LET
Y=13: GO SUB 9000
5080 IF MO>=201 THEN LET A$="POO
R": LET X=13: LET Y=13: GO SUB 9
000
5090 LET A$="TRY AGAIN? (Y/N)":
LET X=21: LET Y=6: GO SUB 9000
5100 IF INKEY$="Y" THEN BEEP .5,
19: CLS: GO TO 1
5110 IF INKEY$="N" THEN STOP
5120 GO TO 5100
9000 LET LENGTH=LEN A$: FOR N=1
TO LENGTH: PRINT AT X,Y+N:A$(N):
BEEP .005,32: NEXT N
9010 RETURN
9900 DATA "4",8,14,"1",6,12,"5",
10,14,"0",6,10,"6",12,14,"A",6,8
,"7",14,14,"Z",6,6,"8",16,14,"9"
,"18",14,"0",20,14
9999 SAVE "TILES" LINE 1

```



# Letter Bingo



Here is a bingo game with a difference. Instead of numbers, you have cards with letters on them. Instead of a caller, you just have to go through the alphabet backwards. Match the letters on the cards as you find them. One of the cards will always be matched first. You have to find out which one it is.

```

1000 REM *****
1010 REM
1020 REM          LETTER BINGO
1030 REM
1040 REM *****
1050 REM
1060 DIM M$(30)
1070 RANDOMIZE
1080 GO TO 1000
1090 REM ** Message **
1100 PRINT AT 20,1: BRIGHT 1: FL
1110 ASH 1: PAPER 5: INK 0:M$
1120 GO SUB 400
1130 IF INKEY#(<>)" THEN GO TO 30
0
1135 LET K$=INKEY#: IF K$="" THE
N GO TO 335
1137 IF K#>="A" AND K#<="Z" THEN
LET K$=CHR# (CODE (K#)-32)

```

```

340 PRINT AT 20,1;"
345 RETURN
350 REM ** Instruction **
360 PRINT AT 20,1; BRIGHT 1; PA
PER 6; INK 0;m#
365 RETURN
370 REM ** Pips **
380 FOR i=1 TO 2
390 BEEP 0.05,50: PAUSE 2
400 NEXT i
405 RETURN
410 REM ** Draw border **
420 PRINT AT 0,0;"": FOR i=1 T
O 20: PRINT AT i,0;"": NEXT i
430 PRINT AT 21,0;"": FOR i=1
TO 30: PRINT AT 21,i;"": NEXT i
440 PRINT AT 21,31;"": FOR i=2
0 TO 1 STEP -1: PRINT AT i,31;"
": NEXT i
450 PRINT AT 0,31;"": FOR i=30
TO 1 STEP -1: PRINT AT 0,i;"":
NEXT i
455 RETURN
460 REM ** Raspberry **
470 BEEP 1,16: BEEP 1,12
480 BEEP .5,25: FOR x=23 TO 17
STEP -.5: BEEP .1,x: PAUSE 2: N
EXT x
485 RETURN
490 REM ** Congratulations **
500 RESTORE 570
510 READ n,p: BEEP n*.25,p: IF
n>0 THEN GO TO 560
520 DATA 1,12,1,14,1,16,2,17,2,
5,12
530 DATA 1,17,1,16,1,17,2,19,2,
5,14
540 DATA 1,14,1,16,1,17,1,5,21,
0,5,10
550 DATA 1,19,1,17,1,17,1,16,1,
14,1,15,3,17
560 DATA 0,0
565 RETURN
570 REM
580 REM ** Routine to draw card
**
590 REM
600 PRINT AT l+0,c-1;cnum
610 PRINT AT l,c;" "
620 FOR x=1 TO 5
630 PRINT AT l+x,c;" ";
640 LET fill=INT (RND*5)
650 PRINT FN f#(fill); PAPER 7;
CHR# (c(cnum,x));FN f#(4-fill);
660 PRINT " "
670 NEXT x
680 PRINT AT l+6,c;" "
690 RETURN
700 REM
710 REM * Function to give s ra
ndom coloured spaces **
720 REM
730 DEF FN r#()=CHR# (17)+CHR#
(1+INT (RND*5))+""
740 DEF FN f#(s)=(FN r#()+FN r#
()+FN r#()+FN r#()+FN r#())( TO
s*3)

```

```

9999 REM
1000 REM ** Show instructions
1001 REM
1050 RESTORE 8000
1060 BORDER 0: PAPER 7: INK 0: C
L3
1065 PRINT AT 2,0;
1070 DIM i$(32): LET note=25
1080 READ i$: IF i$(1)>"0" THEN
PRINT i$: BEEP .1,note: LET not
e=note-1: GO TO 1080
1200 LET m#="Eyes down - press a
ny key!": GO SUB 350
1000 REM
2000 REM ** Generate puzzle **
2001 REM
2040 LET m#="Sorting out the car
ds now...": GO SUB 350
2050 RANDOMIZE
2060 DIM p$(25)
2070 LET cards=6: LET csize=5
2080 DIM c(cards,csize)
2090 FOR i=1 TO 26: LET p$(i)=CH
R$(64+i): NEXT i
2100 LET min=27: LET mincard=0
2150 FOR i=1 TO cards
2170 FOR j=1 TO csize
2180 LET c(i,j)=65+INT (RND*26)
2185 LET used=0
2190 FOR k=1 TO j-1
2200 IF c(i,k)=c(i,j) THEN LET u
sed=1
2210 NEXT k
2220 IF used=1 THEN GO TO 2180
2230 NEXT j
2300 LET goes=0: LET found=0: LE
T apos=27
2320 LET goes=goes+1: LET apos=a
pos-1
2350 FOR j=1 TO csize
2360 IF p$(apos)=CHR$(c(i,j)) T
HEN LET found=found+1
2370 NEXT j
2400 IF found<csize THEN GO TO 2
320
2420 IF goes=min THEN GO TO 2170
2440 IF goes<min THEN LET min=go
es: LET mincard=i
2450 FOR j=24 TO 12 STEP -1: BEE
P .1,j: NEXT j
2500 NEXT i
2000 REM
3000 REM ** Display puzzle **
3001 REM
3050 BORDER 2: PAPER 1: INK 0: C
L3
3055 GO SUB 450
3060 PRINT AT 1,2: PAPER 6: BRIG
HT 1: "LETTER BINGO "
3100 FOR i=1 TO 2
3120 FOR j=1 TO 3:
3150 LET cnum=(i-1)*3+j
3160 LET l=3+(i-1)*7: LET c=4+(j
-1)*9
3180 GO SUB 700
3200 NEXT j
3220 NEXT i

```



```

3250 LET m#="Press ENTER to answer"; GO SUB 350
3300 LET apos=1
3320 PRINT AT 18,3; BRIGHT 1; PAUSE 5;P#(apos TO );P#( TO apos-1)
3330 BEEP .05,25-apos
3340 LET apos=apos+1; IF apos>25 THEN LET apos=1
3350 IF INKEY#="" THEN GO TO 3320
3999 REM
4000 REM ** Get answer **
4001 REM
4050 INPUT "Number of first card matched ?"; LINE r#
4060 LET r#=r#+1
4070 LET answer=CODE (r$(1))-48
4080 IF answer=mincard THEN LET ok=1
4090 IF answer<>mincard THEN LET ok=0
4499 REM
4500 REM ** Check answer **
4501 REM
4550 IF ok=0 THEN LET m#="WRONG - you've missed it !"; GO SUB 350; GO SUB 500; PAUSE 0
4570 IF ok=1 THEN LET m#="BINGO ! You've won the prize !"; GO SUB 350; GO SUB 550; PAUSE 0
4580 LET m#="Do you want another try ?"; GO SUB 300
4590 IF k#<>"y" THEN PAPER 7; INK 0; CLS ; GO TO 9999
4600 GO TO 2000
7999 REM
8000 REM ** Instruction data **
8001 REM
8010 DATA " " LETTER BINGO
8020 DATA "Here is a bingo game with a "
8030 DATA "difference. Instead of numbers, "
8040 DATA "you have cards with letters on "
8050 DATA "them. Instead of a caller, you "
8060 DATA "just have to go through the "
8070 DATA "alphabet backwards. Match the "
8080 DATA "letters on the cards as you "
8090 DATA "find them." " "
8100 DATA "One of the cards will always be "
8110 DATA "matched first. You have to "
8120 DATA "find out which one it is." " "
8130 DATA "House !"
8190 DATA "©"
8999 GO TO 9999
9000 INPUT "File to save ? "; LINE f#

```

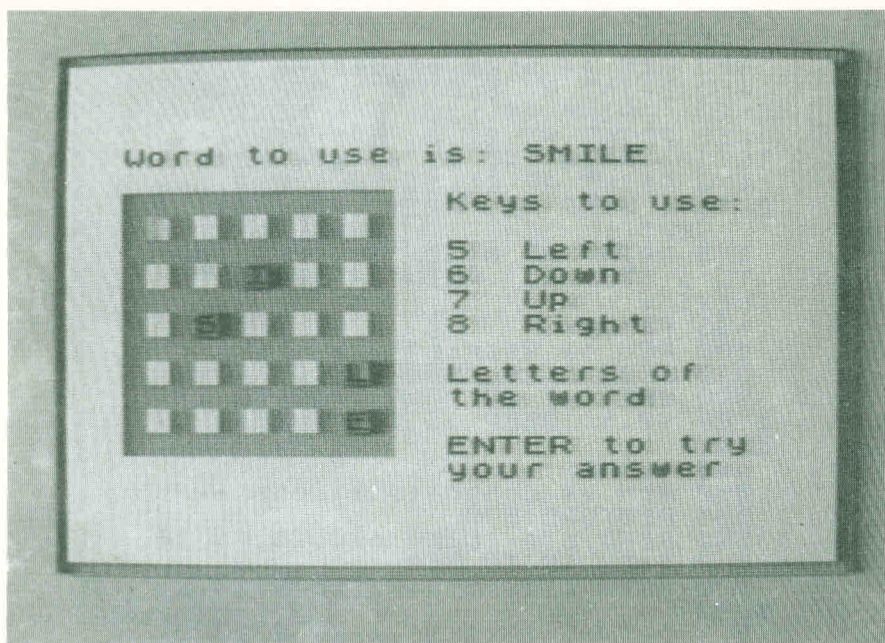
```

0010 SAVE #"";1;f#
0020 GO TO 0000
0100 INPUT "File to erase ? "; L
INE f#
0110 ERASE #"";1;f#
0120 GO TO 0000
0200 PAPER 7: INK 0: CLS : GO TO
0000

```

*Author:* A. Hemming

# Anagrid



You are given a five-letter word and a grid of  $5 \times 5$  squares. You have to put the word or an anagram of it into the grid five times. No letter may appear twice in the same line – vertically, horizontally or diagonally – even the short diagonals. Some letters have already been put in to help you.

```
10 REM *** LETTER GRID ***
15 REM
100 DIM m$(30)
210 RANDOMIZE
295 GO TO 1000
300 REM ** Message **
310 PRINT AT 20,1; BRIGHT 1; FL
ASH 1; PAPER 5; INK 0;m$
320 GO SUB 400
330 IF INKEY#<>" " THEN GO TO 33
0
335 LET k#=INKEY#; IF k#="" THE
N GO TO 335
337 IF k#>="A" AND k#<="Z" THEN
LET k#=CHR# (CODE (k#)-32)
340 PRINT AT 20,1;"
345 RETURN
350 REM ** Instruction **
```



```

380 PRINT AT 20,1: BRIGHT 1: PA
PER 6: INK 0:IM#
395 RETURN
400 REM ** Pips **
410 FOR i=1 TO 2
420 BEEP 0.05,50: PAUSE 2
430 NEXT i
445 RETURN
450 REM ** Draw border **
460 PRINT AT 0,0:"█": FOR i=1 T
O 20: PRINT AT i,0:"█": NEXT i
465 PRINT AT 21,0:"█": FOR i=1
TO 30: PRINT AT 21,i:"█": NEXT i
470 PRINT AT 21,31:"█": FOR i=2
0 TO 1 STEP -1: PRINT AT i,31:"█
": NEXT i
475 PRINT AT 0,31:"█": FOR i=30
TO 1 STEP -1: PRINT AT 0,i:"█":
NEXT i
485 RETURN
500 REM ** Raspberry **
510 BEEP 1,16: BEEP 1,12
520 BEEP .5,25: FOR x=23 TO 17
STEP -0.5: BEEP .1,x: PAUSE 2: N
EXT x
545 RETURN
550 REM ** Congratulations **
565 RESTORE 570
560 READ n,p: BEEP n*0.25,p: IF
n>0 THEN GO TO 560
570 DATA 1,12,1,14,1,16,2,17,2,
5,12
572 DATA 1,17,1,16,1,17,2,19,2,
5,14
574 DATA 1,14,1,16,1,17,1,5,21,
0.5,19
576 DATA 1,19,1,17,1,17,1,16,1,
14,1,16,3,17
580 DATA 0,0
595 RETURN
700 REM ** Functions to locate
grid squares on screen
710 DEF FN l(a)=5+2*a
720 DEF FN c(a)=2+2*a
1000 REM ** Instructions **
1050 BORDER 4: PAPER 6: INK 0
1060 CLS : RESTORE 8000
1070 READ i#
1080 POKE 23692,255: REM Poke ma
kes screen scroll without asking
1090 PRINT AT 21,0)
1100 FOR i=1 TO LEN i#: PRINT i#
(1): BEEP .02,0: NEXT i
1110 PRINT
1120 READ i#: IF i#(1)<>"@" THEN
GO TO 1100
1200 LET m#="Press any key to co
ntinue": GO SUB 350
1999 REM
2000 REM ** Set up puzzle **
2001 REM
2020 DIM z$(5,5): DIM w$(5): DIM
r(4,2)
2030 RANDOMIZE
2050 LET wnum=1+INT (RND*20)
2060 RESTORE 8200: FOR i=1 TO wnum:
READ w$: NEXT i

```

```

2065 FOR i=1 TO 5: LET x=CODE W$(
  (i))-10
2067 IF x<65 THEN LET x=x+26
2069 LET W$(i)=CHR$(x): NEXT i
2070 LET V$=W$
2075 FOR i=1 TO 5
2080 LET X=INT (RND*5)+1: IF W$(
  X)="" THEN GO TO 2080
2090 LET Z$(i,i)=W$(X)
2095 LET W$(X)=""
2100 NEXT i
2110 LET W#=V$
2150 FOR i=1 TO 5
2160 LET l=i: LET c=i
2170 FOR j=1 TO 4
2180 LET l=l+1: IF l>5 THEN LET
  l=l-5
2190 LET c=c+2: IF c>5 THEN LET
  c=c-5
2200 LET z$(l,c)=z$(i,i)
2210 NEXT j
2220 NEXT i
2250 FOR i=1 TO 4
2270 LET l=1+INT (RND*5): LET c=
  1+INT (RND*5)
2280 LET used=0
2290 FOR j=1 TO 5
2300 IF W$(j)=z$(l,c) THEN LET r
  (i,1)=l: LET r(i,2)=c: LET W$(j)
  ="" : LET used=1
2310 NEXT j
2320 IF used=0 THEN GO TO 2270
2330 NEXT i
2350 LET W#=V$
2000 REM
3000 REM ** Display screen **
3001 REM
3020 DIM a$(5,5)
3030 PAPER 6: INK 2: CLS : GO 80
B 450
3050 FOR i=6 TO 16 STEP 2
3060 PRINT AT i,3:"██████████"
3070 IF i<16 THEN PRINT AT i+1,3
  "███ ███ ███ ███"
3080 NEXT i
3090 INK 1
3100 PRINT AT 4,3:"Word to use i
  s: ",W$
3120 RESTORE 8400: LET l=6: LET
  c=16
3130 READ i$: IF i$<>"XXX" THEN
  PRINT AT l,c,i$: LET l=l+1: GO T
  O 3130
3150 FOR i=1 TO 4
3160 LET l=r(i,1): LET c=r(i,2)
3170 LET a$(l,c)=z$(l,c)
3180 PRINT AT FN l(l),FN c(c): P
  APER 4: INK 0:a$(l,c)
3190 NEXT i
3990 REM
4000 REM ** Get answer **
4001 REM
4050 LET l=1: LET c=1
4100 PRINT AT FN l(l),FN c(c): O
  VER 1: FLASH 1:" "
4150 IF INKEY$<>" " THEN GO TO 41
  50

```

```

4160 LET k#=INKEY$: IF k#="" THEN
N GO TO 4180
4170 IF k#>="a" AND k#<="z" THEN
LET k#=CHR# (CODE k#-32)
4180 PRINT AT FN l(l),FN c(c): O
VER 1: FLASH 0: " "
4190 LET ok=0
4200 IF k#="7" AND l>1 THEN LET
l=l-1: GO TO 4180
4220 IF k#="8" AND c<5 THEN LET
c=c+1: GO TO 4180
4240 IF k#="5" AND c>1 THEN LET
c=c-1: GO TO 4180
4260 IF k#="6" AND l<5 THEN LET
l=l+1: GO TO 4180
4280 IF k#=CHR# (13) THEN GO TO
4500
4300 LET orig=0
4310 FOR i=1 TO 4
4320 IF l=r(i,1) AND c=r(i,2) TH
EN LET orig=1
4330 NEXT i
4340 IF orig=1 THEN GO TO 4450
4350 FOR i=1 TO 5
4360 IF k#=w$(i) THEN LET a$(l,c
)=k#: PRINT AT FN l(l),FN c(c):k
#: LET ok=1
4370 NEXT i
4450 IF ok=0 THEN BEEP .2,25
4460 GO TO 4180
4499 REM
4500 REM ** Check answer **
4501 REM
4550 LET ok=1
4560 FOR l=1 TO 5
4570 FOR c=1 TO 5
4580 IF a$(l,c)<>z$(l,c) THEN LE
T ok=0
4590 NEXT c
4600 NEXT l
4650 IF ok=1 THEN LET m#=" Well
solved - dead right !!": GO SUB
350: GO SUB 550: PAUSE 0
4670 IF ok=0 THEN LET m#=" WRONG
! - have another look !": GO SU
B 350: GO SUB 500: PAUSE 0
4700 LET m#="Do you want another
go? (Y/N)": GO SUB 300
4720 IF k#<>"Y" THEN CLS : GO TO
9999
4740 IF ok=1 THEN GO TO 2000
4750 IF ok=0 THEN GO TO 3000
8000 DATA " ANAGRID"
8010 DATA " "
8020 DATA "You are given a five
letter"
8030 DATA "word and a grid of 5x
5 squares."
8040 DATA "You have to put the w
ord or an"
8050 DATA "anagram of it into th
e grid"
8060 DATA "five times." " " "Eas
y ? Not here !" " "
8070 DATA "No letter may appear
twice in "

```



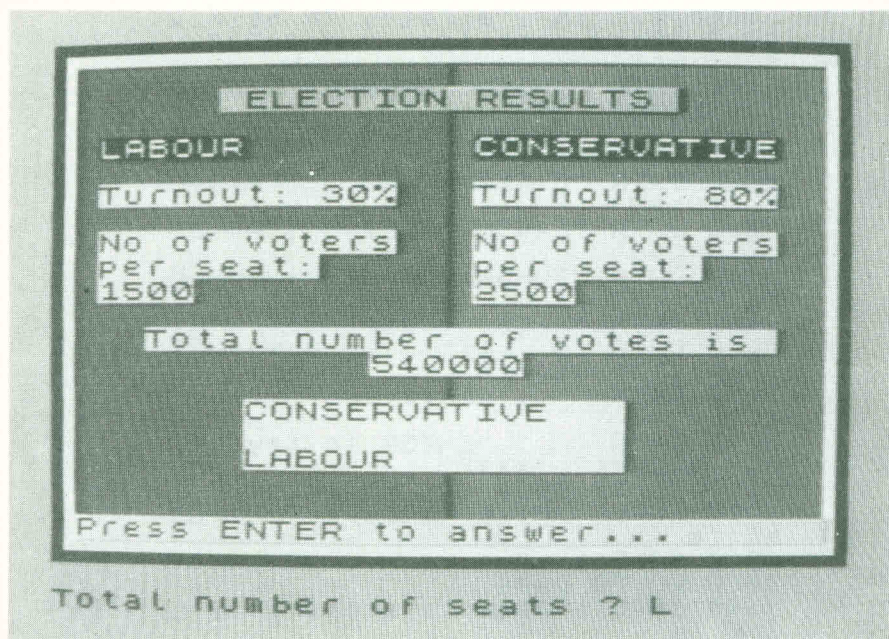
```

8080 DATA "the same line - verti
cal,"
8090 DATA "horizontal or diagona
l - even"
8100 DATA "the short diagonals,"
8110 DATA " ", "Some letters have
been put in", "already to help y
ou.", "Good Luck !", " ", " ", " ", " "
8190 DATA "@"
8200 DATA "RYBCO", "DSQOB", "CRKBO
", "NBSXU"
8210 DATA "USQRD", "QKWOC", "ZSUVD
", "DBKSX"
8220 DATA "BYKMR", "QKSJO", "KXQVO
", "ZUKMO"
8230 DATA "CXKSU", "LESUN", "PUYEB
", "DKLVO"
8240 DATA "ZUKSN", "MRKSX", "QWSVO
", "UQWYX"
8400 DATA "Keys to use:", " "
8410 DATA "5 Left", "6 Down", "7
Up", "8 Right"
8420 DATA " ", "Letters of", "the
word"
8430 DATA " ", "ENTER to try", "y
our answer", "XXX"
9990 GO TO 9999
9000 INPUT "File to save ? "; LI
NE f$
9010 SAVE "*"m";1)f$
9020 GO TO 9999
9100 INPUT "File to erase ? "; L
INE f$
9110 ERASE "*"m";1)f$
9120 GO TO 9999

```

*Author:* L. Cornford

# Election



It was a very peculiar election. All the seats were won either by Labour or Conservatives with no opposition in any seat! The turnout was the same in all constituencies won by each party. The number of voters was also the same in all the seats won by each party. If we tell you that the total number of votes cast for each party was the same, and give you all the voting figures, can you work out the total number of constituencies?

```

1 REM *****
2 REM
3 REM      ELECTION
4 REM
5 REM *****
6 REM
100 DIM m$(30)
210 RANDOMIZE
295 GO TO 1000
300 REM ** Message **
310 PRINT AT 20,1: BRIGHT 1; FL
ASH 1; PAPER 5; INK 0;m$
320 GO SUB 400
330 IF INKEY$(">") THEN GO TO 33
0
335 LET k$=INKEY$: IF k$="" THE
N GO TO 335

```

```

337 IF K#>="A" AND K#<="Z" THEN
LET K#=CHR# (CODE (K#)-32)
340 PRINT AT 20,1;"
345 RETURN
350 REM ** Instruction **
360 PRINT AT 20,1; BRIGHT 1; PA
PER 5; INK 0;M#
365 RETURN
400 REM ** Pips **
410 FOR i=1 TO 2
420 BEEP 0.05,50: PAUSE 2
430 NEXT i
445 RETURN
450 REM ** Draw border **
460 PRINT AT 0,0;"█"; FOR i=1 T
O 20: PRINT AT i,0;"█"; NEXT i
465 PRINT AT 21,0;"█"; FOR i=1
TO 30: PRINT AT 21,i;"█"; NEXT i
470 PRINT AT 21,31;"█"; FOR i=2
0 TO 1 STEP -1: PRINT AT i,31;"█
"; NEXT i
475 PRINT AT 0,31;"█"; FOR i=30
TO 1 STEP -1: PRINT AT 0,i;"█";
NEXT i
485 RETURN
500 REM ** Raspberry **
510 BEEP 1,15: BEEP 1,12
520 BEEP .5,25: FOR X=23 TO 17
STEP -0.5: BEEP .1,x: PAUSE 2: N
EXT X
545 RETURN
550 REM ** Congratulations **
560 RESTORE 570
580 READ n,p: BEEP n*0.25,p: IF
n>0 THEN GO TO 560
570 DATA 1,12,1,14,1,16,2,17,2,
5,12
572 DATA 1,17,1,16,1,17,2,19,2,
5,14
574 DATA 1,14,1,16,1,17,1,5,21,
0.5,19
576 DATA 1,19,1,17,1,17,1,16,1,
14,1,16,3,17
580 DATA 0,0
595 RETURN
600 REM
700 REM ** Draw bar indicator *
*
701 REM
710 FOR X=5 TO 1 STEP -1
720 PRINT AT (1+(5-X)*2,c1;"E";
X*1000
730 NEXT X
740 PRINT AT (1+10,c1;"E0";AT (
1+10,c1+5;"███"
750 FOR X=(1 TO (1+9: PRINT AT
X,c1+5;"███"; NEXT X
790 RETURN
900 REM
1000 REM ** Show instructions
1001 REM
1050 RESTORE 8000
1060 BORDER 1: PAPER 2: INK 0: C
LS
1070 PRINT AT 1,0;
1075 LET i=0

```



```

1080 READ i$: IF i$(1)="@" THEN
GO TO 1200
1100 PRINT i$
1110 BEEP .1,1: LET i=i+1
1120 GO TO 1080
1200 LET m$="Press any key to co
ntinue..."
1210 GO SUB 300
1999 REM
2000 REM ** Generate puzzle **
2001 REM
2050 RANDOMIZE
2070 LET nm=100*(10+INT (RND*20)
)
2080 LET nf=100*(10+INT (RND*20)
)
2085 IF nf=nm THEN GO TO 2080
2090 LET hm=10*(1+INT (RND*9))
2100 LET hf=10*(1+INT (RND*9))
2110 IF hf=hm THEN GO TO 2100
2130 LET m1=(3+INT (RND*6))/10
2150 LET pm=m1*nf*hf/100
2160 LET pf=m1*nm*hm/100
2170 LET pop=pm+pf
2180 LET leaves=2*pm*nm*hm/100
2999 REM
3000 REM ** Display puzzle **
3001 REM
3050 BORDER 5: PAPER 7: INK 0: C
LS : GO SUB 450
3060 FOR i=1 TO 19
3065 PRINT AT i,1: PAPER 2: "
" : PAPER 1: "
3067 NEXT i
3070 PRINT AT 2,7: PAPER 6: INK
0: " ELECTION RESULTS "
3100 PRINT INVERSE 1: AT 4,2: "LAB
OUR": AT 4,17: "CONSERVATIVE"
3120 PRINT AT 6,2: "Turnout: ";hm
: "%": AT 6,17: "Turnout: ";hf: "%"
3250 PRINT AT 8,2: "No of voters"
:
3255 PRINT AT 9,2: "per seat:"
3260 PRINT AT 8,17: "No of voters
" :
3265 PRINT AT 9,17: "per seat:"
3270 PRINT AT 10,2: nm: AT 10,17: n
f
3300 PRINT AT 12,4: "Total number
of votes is ": AT 13,13: leaves
3320 PRINT AT 15,8: "CONSERVATIVE
"
3330 PRINT AT 16,8: "
"
3340 PRINT AT 17,8: "LABOUR
"
3350 LET m$="Press ENTER to answ
er...": GO SUB 350
3360 PRINT AT 15,22: "X"
3370 BEEP .1,15
3380 PAUSE 50
3385 PRINT AT 15,22: " "
3390 IF INKEY#>" " THEN GO TO 400
0
3400 PRINT AT 17,22: "X"
3410 BEEP .1,15

```

```

3420 PAUSE 50
3425 PRINT AT 17,22;" "
3440 IF INKEY$>" " THEN GO TO 4000
3450 GO TO 3360
3999 REM
4000 REM ** Get answer **
4001 REM
4050 INPUT "Total number of seats ? "; LINE r$
4060 IF r$="" THEN GO TO 4050
4065 LET ok=1
4070 FOR i=1 TO LEN r$
4080 IF r$(i)<"0" OR r$(i)>"9" THEN LET ok=0
4090 NEXT i
4100 IF ok=0 THEN GO TO 4050
4150 LET answer=VAL r$
4160 LET ok=0
4170 IF answer=pop THEN LET ok=1
4499 REM
4500 REM ** Check answer **
4501 REM
4550 IF ok=0 THEN LET m$="You won't be our adviser!"; GO SUB 350; GO SUB 500; PAUSE 0
4570 IF ok=1 THEN LET m$="Right! (or Left) - correct!"; GO SUB 350; GO SUB 550; PAUSE 0
4580 LET m$="Do you want another try ? "; GO SUB 300
4590 IF m$<>"y" THEN PAPER 7; INK 0; CLS; GO TO 9999
4600 IF ok=0 THEN GO TO 3000
4610 IF ok=1 THEN GO TO 2000
7999 REM
8000 REM ** Instruction data **
8001 REM
8010 DATA "ELECTION"," "
8020 DATA "It was a very peculiar election."
8030 DATA "All the seats were won by either"
8040 DATA "Labour or Conservative with no"
8050 DATA "opposition in any seat!"
8060 DATA "The turnout was the same in all"
8070 DATA "constituencies won by each"
8080 DATA "party. The number of voters"
8090 DATA "was also the same in all the"
8100 DATA "seats won by each party."
8110 DATA "If we tell you that the total"
8120 DATA "number of votes cast for each"
8130 DATA "party was the same, and give you"
8140 DATA "all the voting figures, can you"
8150 DATA "work out the total number of"

```

```

8160 DATA "constituencies ?"
8190 DATA "0"
8990 GO TO 9999
9000 INPUT "File to save ? "; LI
NE f#
9010 SAVE #"m";1)f#
9020 GO TO 9999
9100 INPUT "File to erase ? "; L
INE f#
9110 ERASE #"m";1)f#
9120 GO TO 9999
9200 PAPER 7: INK 0: CLS : GO TO
9999

```

*Author:* T. Maher

### *Solution to 'Shunting'*

If you set up the starting position, and then enter the following commands, you should arrive at the desired result:

L; L; D; L; L; S; U; G; L; L; D; U; K; R; L; S; L; L; D; L; L; S; U;  
 G; L; U; K; R; L; U; G; L; S; L; U; G; L; D; U; G; L; U; G; L; S.



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